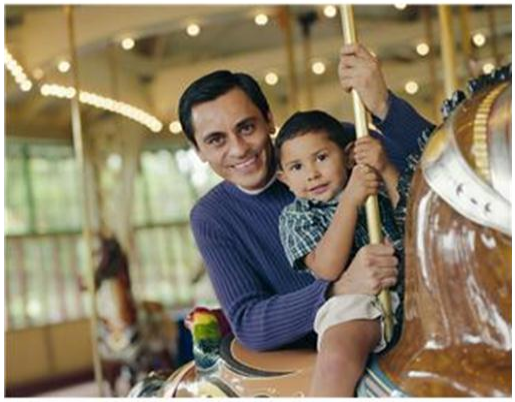
Maricopa County
Health Status Report
2009



Detailed Summary

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Contents

Introduction 1
Population 5
HIV and AIDS 7
Sexually Transmitted Diseases (STD) 11
Tuberculosis 15
Vectorborne & Zoonotic Diseases 18
Foodborne and Waterborne Diseases 22
Pneumonia & Influenza 25
Vaccine Preventable Diseases 28
Cancer 33
Heart Disease 36
Unintentional Injury 40
Alzheimer's Disease 43
Chronic Lower Respiratory 45
Cerebrovascular Disease (Stroke) 48
Diabetes 50
Suicide & Homicide 54
Liver Disease 57
Years of Potential Life Lost 60
Births 63
Births to Teen Mothers 66
Low Birthweight 68
Prenatal Care 70
Infant Mortality 73
Life Satisfaction 77
Access to Care 79
Technical Notes 82
Appendix A--2009 Population Tables 90
Appendix B--2009 BRFSS 93
Bibliography 97

Introduction

In 2009, the estimated population of Maricopa County reached 4 million, growth of nearly 1 million since the 2000 Census. The growth exceeded the population of several states. Football fans across Maricopa County watched as the Arizona Cardinals nearly won the Super Bowl, one year after Arizona hosted the Super Bowl at University of Phoenix Stadium in Glendale.

In public health, the major story of 2009 was the first influenza pandemic in 40 years. The first cases in Maricopa County occurred at the end of April. Influenza continued to be seen throughout the summer, something that typically did not occur. The anticipated second wave began in October, with thousands of Maricopa County residents becoming ill. Many were seen in the Emergency Room or hospitalized. By the end of the pandemic, over 5,000 confirmed cases of influenza were reported and 77 people died from H1N1 Influenza in Maricopa County.

The 2009 leading causes of death in Maricopa County were cancer and heart disease, killing nearly 12,000 Maricopa County residents. This was the first year where the leading cause of death was not heart disease. Unintentional injury deaths in Maricopa County continued to occur at a rate greater than the rate in the United States. Table A-1 lists the Top Ten Causes of Death for Maricopa County in 2009.

Table A-1 Top 10 Causes of Death: 2009

Cancer
Heart Disease
Unintentional Injury
Alzheimer's
Chronic Lower Respiratory
Cerebrovascular
Diabetes
Suicide
Pneumonia and Influenza
Liver Disease

Over 400,000 hospitalizations from all causes occurred during 2009 for Maricopa County residents in Maricopa County hospitals. These hospitalizations, which do not include Emergency Room visits, incurred over 15 billion dollars in health care costs. The most common primary discharge diagnoses for hospitalized residents were diseases of the circulatory system and diseases of the digestive system.

Novel influenza was not the only infectious disease seen in Maricopa County in 2009. Over 30,000 cases of infectious disease were confirmed in Maricopa County residents. Chlamydia and coccidiodomycosis (Valley fever) had the highest confirmed case counts reported while West Nile virus cases were at an all-time low since the disease was first discovered in the county in 2004.

The number of births in Maricopa County peaked in 2006 and then began to decrease. 2009 saw the fewest births since 2002. The number of births for every maternal race/ethnicity group decreased except for Black mothers who saw a slight increase in the total number of births from 2008.

Health disparities continue to exist between groups of people defined by race, and ethnicity, sex, age, and socioeconomic status. Compared to white residents, black and Hispanic residents had higher death rates due to homicide while American Indian residents had higher death rates due to liver disease. Women had higher rates of chlamydia compared to men, while men continued to have higher rates of HIV/AIDS. Teenagers and young adults (ages 15-24 years) had higher rates of Chlamydia and Gonorrhea compared to other age groups. The less education a mother had at the time of birth (a possible surrogate for socioeconomic status), the higher the infant mortality rate.

Highlights of the Health Status Report

The *Maricopa County Health Status Report 2005-2009* paints a picture of the health status of the community in 2009 and in the five-year period leading up to 2009. It covers information on disease, death, and births in Maricopa County between 2005 and 2009. It includes analyses by sex, race/ethnicity, and age as well as comparison to national and state data. The following are just a few of the noteworthy findings:

- The death rate for AIDS was the lowest since the very beginning of the pandemic and the rate of new HIV cases decreased.
- Cancer became the number one cause of death in 2009, surpassing deaths due to heart disease for the first time.
- Deaths due to motor vehicle collisions decreased while unintentional poisonings increased.
- The suicide death rate in Maricopa County was higher than the U.S. rate. The homicide death rate was lower than the U.S. rate.
- The fewest number of confirmed West Nile virus cases were reported in 2009 since it first appeared.
- Chlamydia was almost three times more likely to be reported in females than males.
- Tuberculosis case rates were highest in Asian residents of Maricopa County.

- The infant mortality rate decreased between 2005 and 2009.
- One in four mothers did not receive adequate prenatal care.
- Black and Asian infants were most likely to be born at low birthweights.
- 1 in 12 Maricopa County residents reported a history of diabetes.
- 1 in 6 Maricopa County residents reported a history of asthma.
- Nearly 1 in 4 residents are considered obese based on height and weight.

Winnable Battles

The Centers for Disease Control has identified 10 winnable battles in public health. Three of the battle areas are focused on a more global level. The remaining seven are battles that can be won at the local level in Maricopa County and are discussed below. The 10 winnable battles are:

- Food Safety
- Global Immunization
- Healthcare-associated Infections
- HIV in the U.S.
- Lymphatic Filariasis in the Americas
- Motor Vehicle Injuries
- Nutrition, Physical Activity, and Obesity
- Mother-to-Child Transmission of HIV/AIDS Globally
- Teen Pregnancy
- Tobacco

Food Safety: In the last 5-years, the number of foodborne disease cases reported in Maricopa County has increased. Identifying and implementing ideas that can reduce the number of illnesses due to foodborne diseases, such as identifying outbreaks sooner, will become a key goal in the next years for Maricopa County.

HAI: Healthcare-associated infections results in millions of dollars lost for treatment and extended hospital stays. Working with healthcare partners, Maricopa County hopes to identify methods to reduce the number of healthcare-associated infections in Maricopa County residents.

HIV: With the discovery of anti-viral treatments for HIV-positive individuals, the death rate due to HIV/AIDS has decreased dramatically in Maricopa County. However, new cases of HIV are diagnosed every day. Developing messages to encourage HIV testing in all adults as well as messages that will result in behavioral changes may help decrease the number of new HIV cases.

MVA: The number of motor vehicle deaths has decreased significantly the last few years. By continuing the methods already identified, such as car seat safety and installation classes, seatbelt enforcement laws, and tough DUI laws, the number of deaths will hopefully continue to decrease.

Nutrition: Even though rates of obesity are lower in Maricopa County compared to the rest of the United States, the number of obese individuals is increasing in Maricopa County. Identifying and implementing methods to increase physical activity and encourage healthy eating choices in both children and adults will not only create healthier lives overall, but may help decrease the rate of obesity.

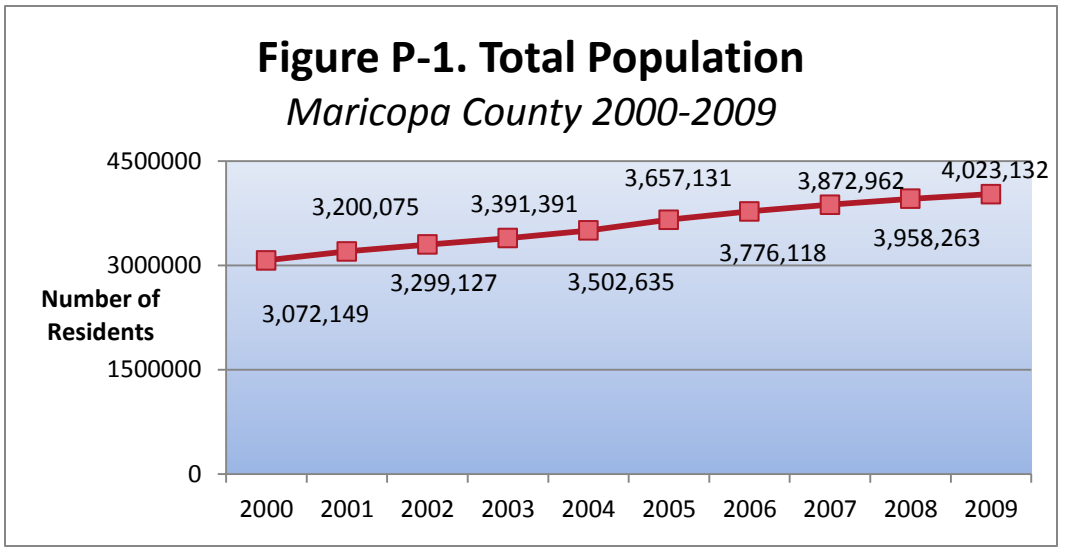
Teen Pregnancy: Teen pregnancy impacts more than just the mother and child. Infants born to teenagers have a higher infant mortality than infants born to mothers who are 20-40 years old. Identifying ways to encourage teenagers to postpone sex or use methods that are proven to reduce pregnancies is important to improve the lives of both teenagers and infants.

Tobacco: Tobacco is a contributing factor in many deaths such as those due to lung cancer and chronic respiratory diseases. The number of Maricopa County residents who report smoking has decreased in recent years. However, 1 in 7 residents still smoke. With the help of smoking cessation programs, decreasing the number of smokers even more will impact the lives of Maricopa County residents for many years down the road.

Access to Care

With the recession beginning in 2008, many individuals have lost their jobs. With the loss of their jobs, many have also lost health insurance. Even before the recession, many individuals living in Maricopa County were unable to afford health insurance. Data from 2009 suggests that 13.7% of the adult population living in Maricopa County were uninsured. When asked if there was a time in the last 12 months that they needed to see a doctor but could not because of the cost, 14.6% of the adult population answered 'Yes'.

The ability to seek medical care before it becomes an emergency is important for the health of the entire community. Lack of access to care can result in serious complications such as long hospitalizations, amputation, and death. The ability to afford prescription medications can delay the effects of diabetes, heart disease, asthma, and HIV to name just a few diseases.



Population

Key Findings

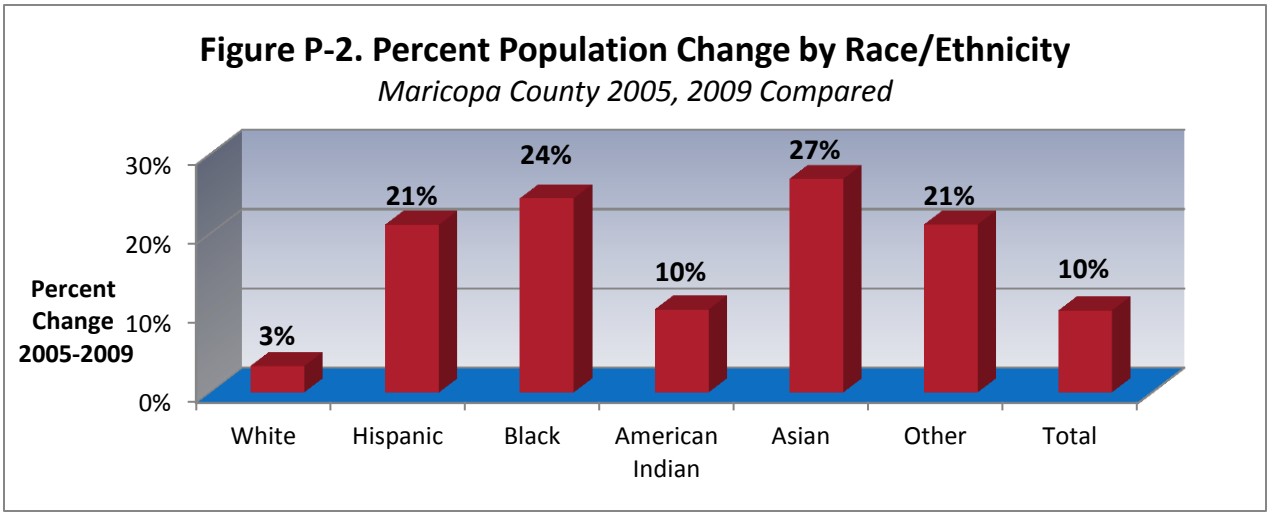
- Since the 2000 Census, the total population of Maricopa County grew by nearly 1 million residents.
- The largest increase in population occurred among Asian, Black, and Hispanic groups.

Rapid Growth in Maricopa County

As shown in Figure P-1, the population of Maricopa County has been increasing each year between 2000 and 2009. The total growth is greater than the entire population of 7 U.S. states. In the last five year period (2005-2009), the population grew by approximately 10.5% from 3.6 million to 4.0 million. The population grew by approximately 30% since the 2000 Census.

Largest Growth Among Asians, Blacks, and Hispanics

Asians had the largest percent increase in population between 2005 and 2009 (27%), followed by Blacks (24%), and Hispanic (21%), and Mixed/Other (21%). See Figure P-2 below. For information on the race and ethnic groups used, please see the Technical Notes section at the end of this report.



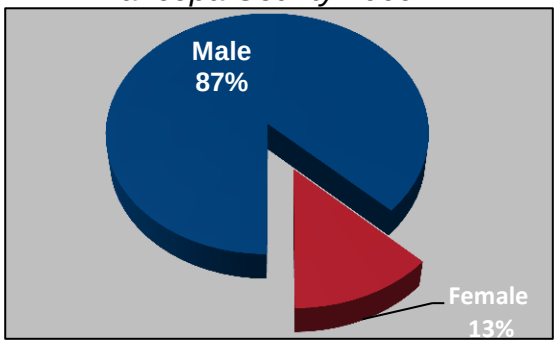
Communicable Diseases

HIV and AIDS

Key Findings

- Between 2005 and 2009, the rate of new cases of HIV diagnosed in Maricopa County fluctuated between 8.4 cases to 10.4 cases per 100,000 residents.
- 1,718 new individuals became infected with HIV over this period.
- HIV/AIDS affected more males than females in 2009.
- Newly diagnosed cases and deaths were more common among Black residents in 2009.

Figure 1-2. HIV and AIDS Cases by Sex *Maricopa County 2009*



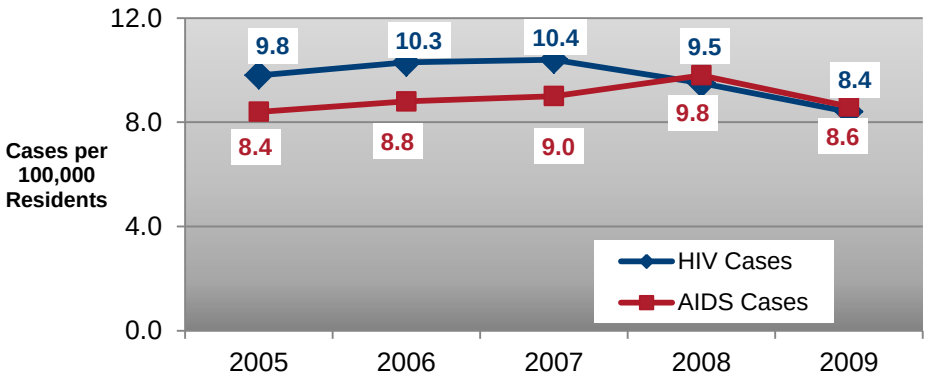
- Deaths from HIV/AIDS have decreased over the past ten years. However, Maricopa County did not meet the Healthy People 2010 Goal of 0.7 deaths per 100,000 people.
- In 2009, 43.4% of adult Maricopa County residents report they have been tested for HIV.

New Cases Every Year

HIV/AIDS has been present in Maricopa County since the early 1980s. Since the first case was identified, over 10,000 residents have been diagnosed with new cases of HIV/AIDS.

In 2009, 337 Maricopa County residents were diagnosed with HIV and 346 were diagnosed with AIDS. These were rates of 8.4 HIV cases and 8.6 AIDS cases per 100,000 residents. Maricopa County was below the 2008 U.S rate of 13.0 AIDS cases per 100,000, but above the 2009 Arizona rate of 7.6

Figure 1-1. HIV and AIDS Cases by Year *Maricopa County 2005-2009*



cases per 100,000 residents. Maricopa County has not met the Healthy People 2010 goal of 1.0 or fewer new cases per 100,000 residents.

After a steady increase to a high of 10.4 cases per 100,000 residents in 2007, the number of new HIV cases declined to 8.4 cases per 100,000 residents in 2009. Whether or not the decrease will continue is yet to be seen. The rate of new AIDS cases increased each year from 8.4 new cases per 100,000 residents in 2005 to 9.8 new cases per 100,000 residents in 2008. 2009 saw a decrease in new AIDS cases with a rate of 8.6 new cases per 100,000 residents.

Males Affected More than Females

In Maricopa County, as in the U.S overall, males were more likely to contract HIV and AIDS than were females. As shown in Figure 2-2, 87% of new cases of HIV and AIDS were male while only 13% were female.

Risk behaviors for new HIV cases in 2009 were consistent with this finding. Men who have sex with men (MSM) accounted for 61.9% of the new HIV cases while injecting drug users (IDU) accounted for 5.4%. Individuals who were both MSM and IDU accounted for another 5.7% of new HIV cases. Heterosexual sex accounted for 5.7% while the remaining 20.8% were due to other or unknown risk behaviors.

Differences Between Ethnic Groups

As is the case for many of the diseases discussed in this report, Black residents were more likely to be diagnosed with HIV in 2009 than were White, Hispanic, or Asian residents in other ethnic groups. Approximately 21 of every 100,000 Black Maricopa County residents were diagnosed with HIV in 2009. In contrast, approximately 7 of every 100,000 White residents were diagnosed with HIV during the same period, as shown in Figure 1-3. The same pattern exists for AIDS cases (not shown).

Figure 1-3. HIV Rates by Race/Ethnicity
Maricopa County 2009

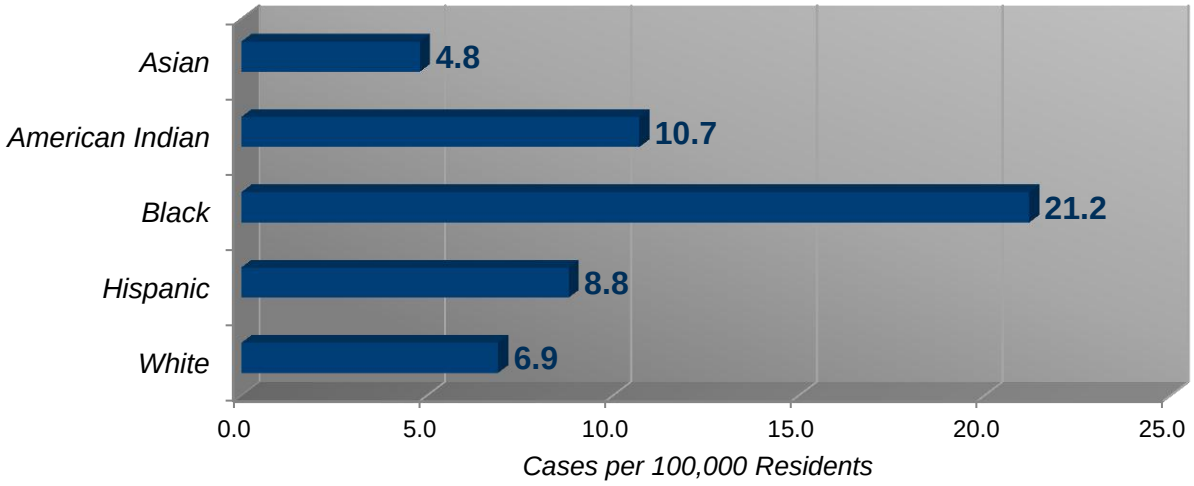
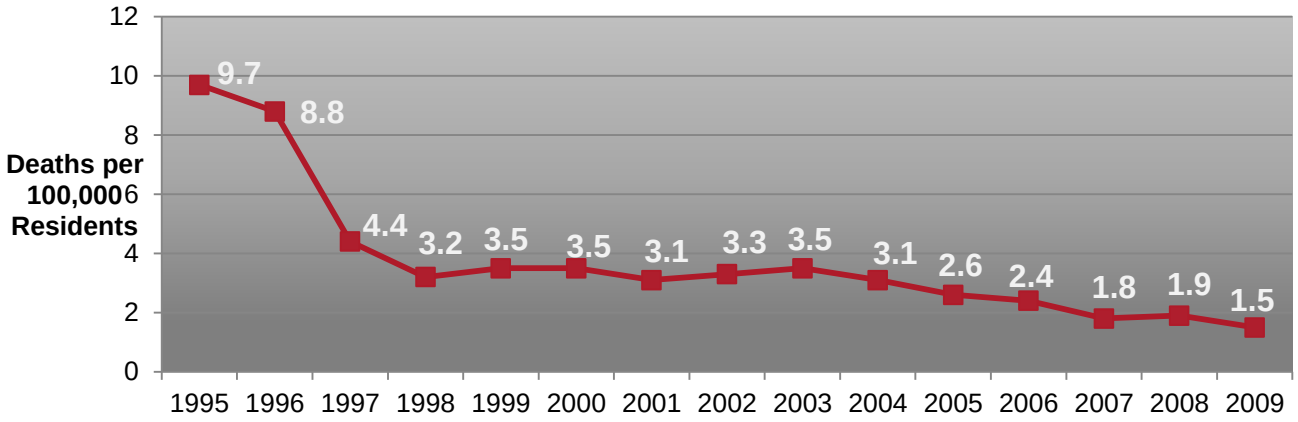


Figure 1-4. HIV/AIDS Death Rates
Maricopa County 1995-2009



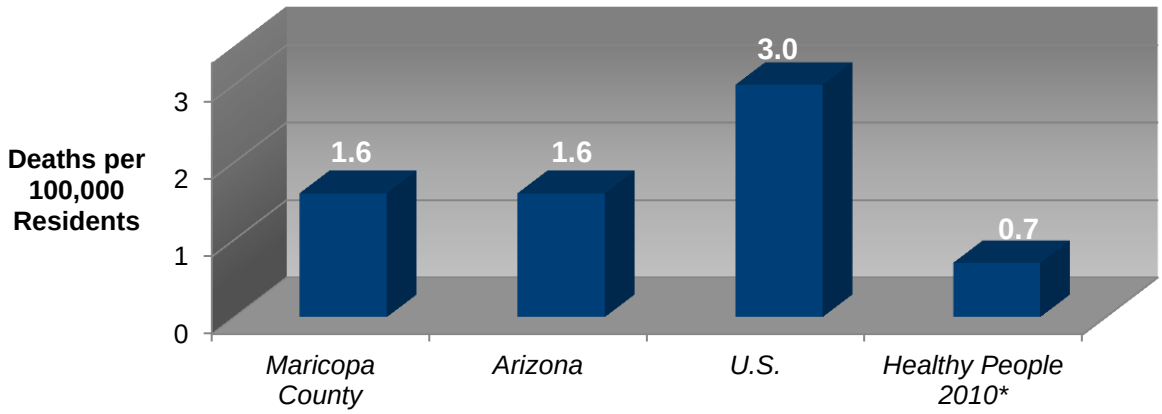
AIDS Deaths Continue to Decrease, Healthy People 2010 Goal Not Met

Figure 1-4 shows the HIV/AIDS death rates for Maricopa County residents over the last 15 years (1995-2009). After a dramatic decrease in the number of deaths due to the development of effective anti-viral treatments in the mid-1990s, the death rate has continued to decrease but at a much slower rate. In the last few years, the death rate was below 2.0 deaths per 100,000 residents per year.

Despite the large decrease since the development of effective anti-viral treatments, the death rate is still more than twice the Healthy People 2010 goal of 0.7 deaths per 100,000 residents. As shown below, Maricopa County's HIV/AIDS death rate in 2009 was half the rate as the U.S. rate, and was the same as the Arizona rate.

As with case rates, Black residents in Maricopa County had a higher rate of death from AIDS than any other race/ethnicity group. The rate (age-adjusted) for Blacks

Figure 1-5. AIDS Death Rate Comparisons
Age Adjusted, 2009



was 10.0 deaths per 100,000 residents compared to 4.2 for American Indians, 1.9 for Hispanics, and 1.1 for Whites. There were no deaths for Asian residents in 2009.

Less Than 50 Percent of Adults Have Been Tested for HIV

Only 43.4% of Maricopa County resident have ever been tested for HIV (not including testing done for blood donations). The age groups with the highest percentage for having ever been tested are the 34-44 and 45-54 age groups with 54.0% responding 'Yes.' No information was available for respondents 65 and older. See Table 1-1 for the percentages for sex, age, and race. See technical notes for more information about BRFSS data.

Table 1-1 Percent of those who have ever had an HIV test

Maricopa County 2009 BRFSS

Group	Percent
Total	43.4
Sex	
Male	38.9
Female	48.2
Age group	
18-34	52.3
35-44	54.0
45-54	54.0
55-64	30.2
65+	NA
Race	
White, non-Hispanic	41.7
Hispanic	44.0

Have you ever been tested for HIV? Do not count tests you may have had as part of a blood donation. Include testing fluid from your mouth.

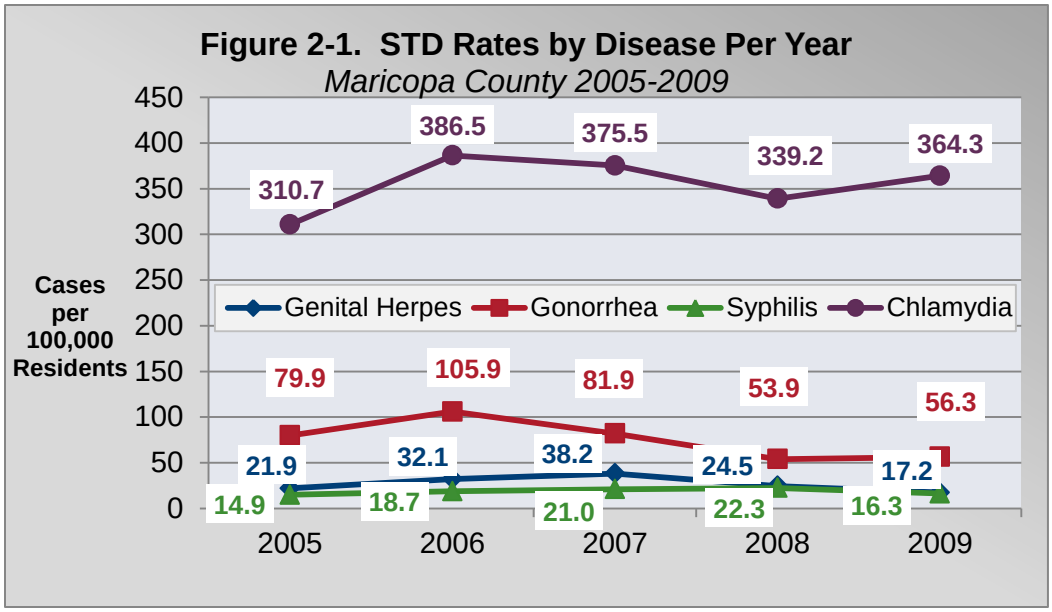
Sexually Transmitted Diseases (STD)

Key Findings

- There were over 18,000 cases of sexually transmitted diseases among Maricopa County residents in 2009.
- The most common STD was chlamydia.
- Chlamydia was more common in females and young adults aged 15-34 years old.
- Gonorrhea was more common in males and Black residents.
- Rates of congenital syphilis continue to be high in Maricopa County infants.

STDs Most Common Reported Communicable Disease

In 2009, there were 18,271 reported cases of genital herpes, gonorrhea, syphilis, and chlamydia in Maricopa County residents. This makes STDs the most commonly reported communicable disease, with more than 1 out of 3 reported communicable diseases being a STD. By far the most reported STD, or any communicable disease in 2009, was chlamydia with 14,658 cases. The next most common STD was gonorrhea with 2,264 cases.

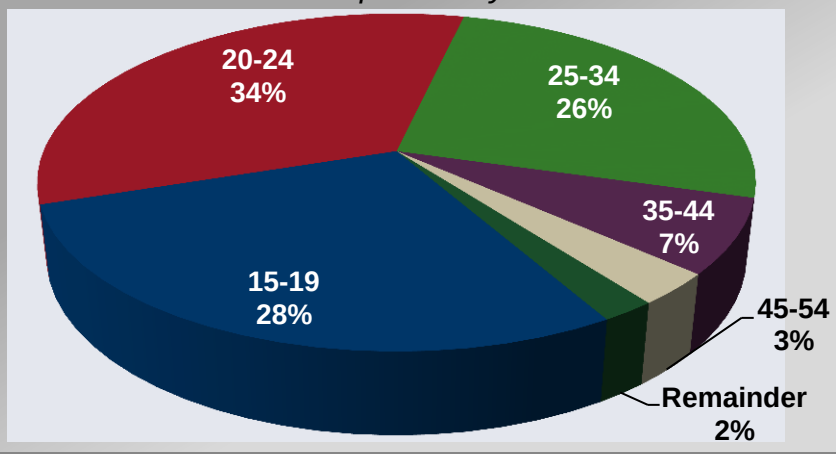


The rate of disease fluctuated over the five-year period for most STDs. Gonorrhea and chlamydia had higher rates in 2009 compared to 2005. Figure 2-1 shows the rate of disease for each STD per year.

Teenagers and young adults have the highest rates of STDs. As seen in Figure 2-2, over 60% of the reported STDs in 2009 were in individuals age 15-24. Eighty-eight percent of cases were among individuals under the age of 35.

Figure 2-2. STD Cases by Age Group

Maricopa County 2009

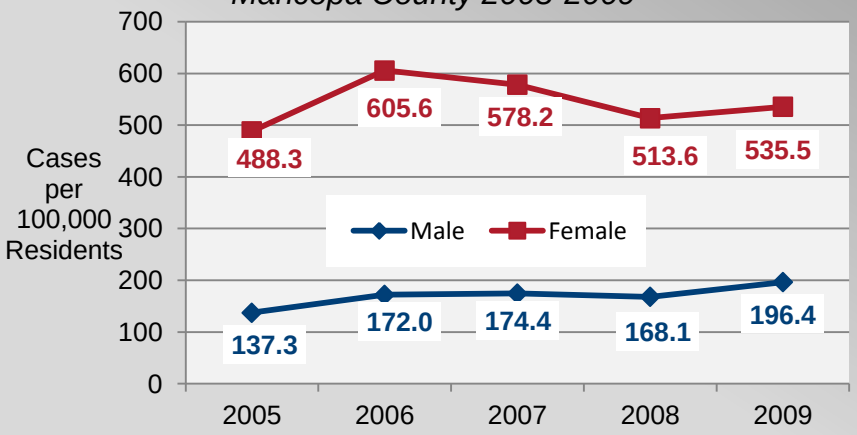


Chlamydia More Commonly Reported in Females and Young Adults

Chlamydia is a bacterial infection that typically presents with no symptoms or mild symptoms that appear 1-3 weeks after exposure. However, despite having mild or no symptoms at all, it can cause serious health complications. For example, untreated chlamydia infections in females may cause pelvic inflammatory disease, pelvic pain, and even infertility. Due to current recommendations that females be screened for Chlamydia during routine gynecological exams, chlamydia is more likely to be diagnosed for females then males. In 2009, the rate for chlamydia in females was nearly 3 times the rate for males, 535.5 versus 196.4 per 100,000 residents respectively in 2009. However, as shown in Figure 2-3, the ratio of the female to male rates has decreased over the last five years, going from 3.6 female cases per male case in 2005 to 2.7 female cases per male case in 2009.

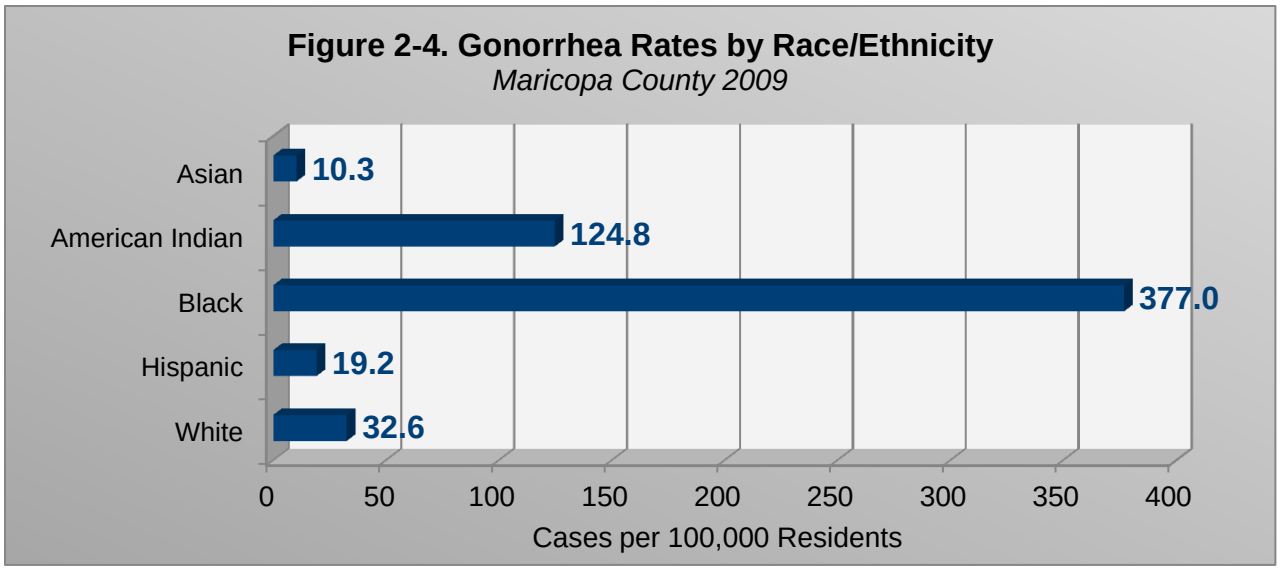
Figure 2-3. Chlamydia Rates per Year by Sex

Maricopa County 2005-2009



Gonorrhea Rates Highest in Male and Black Residents

Gonorrhea is a bacterial infection that can present with discharge in the genital area for both males and females, although women rarely have symptoms at all. In females, untreated gonorrhea infections may lead to pelvic inflammatory disease, which may eventually lead to infertility.



Unlike chlamydia, gonorrhea had a higher reported rate in males (62.5 cases per 100,000 males) than in females (49.9 cases per 100,000 females).

Black residents of Maricopa County had the highest rate of gonorrhea with 377.0 cases per 100,000 Black residents. This was more than 3x the rate for American Indian residents who had the second highest rate at 124.8 cases per 100,000 American Indian residents. Figure 2-4 shows that Asian residents had the lowest rate of disease at 10.3 cases per 100,000 Asian residents, a rate that is nearly 37x lower than the rate for Black residents.

Although cases of gonorrhea are particularly concentrated among Black residents, Blacks do not make up the majority of cases. White non-Hispanic residents had 755 cases of gonorrhea compared to 676 cases in Black residents.

Infants Get STDs Too

Despite their young age, infants can potentially get STDs from their mothers. When this happens, the infection is called congenital and is contracted either in the uterus (syphilis) or during the birthing process when the infant passes through the mother's birth canal (gonorrhea and genital herpes). Based on the type of infection, different outcomes may occur for the infant. For example, congenital gonorrhea can result in blindness, congenital genital herpes can lead to death, and congenital syphilis can lead to deformities of the infant as well as stillbirth.

In 2009, infants contracted congenital infections of genital herpes, syphilis, and chlamydia. Although infants have contracted congenital gonorrhea in previous years, there were no cases in 2009.

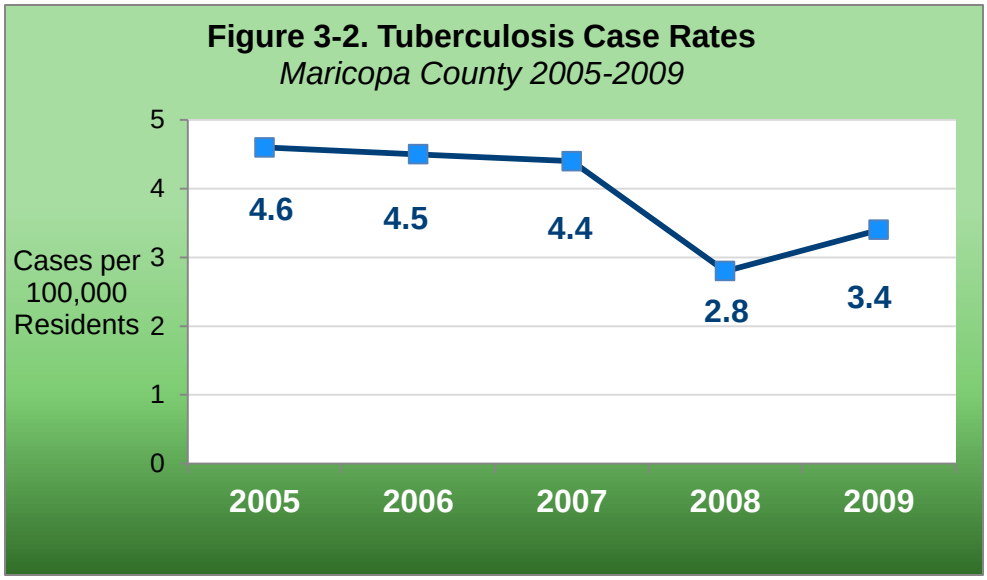
The most common congenital STD in Maricopa County is congenital syphilis. In 2009, there were 12 cases for a rate of 20.8 cases per 100,000 live births. This rate was lower than in previous years which had seen around 20 cases of congenital syphilis for a rate of over 30 cases per 100,000 live births.

However, despite the slight decrease in 2009, the rates in Maricopa County are much higher than the rest of the United States. In 2009, the rate of congenital syphilis in the United States was less than half the rate in Maricopa County at 10.0 cases per 100,000 live births compared to Maricopa County at 20.8.

The best way to prevent congenital STDs is early prenatal care. For example, if a pregnant mother has an active case of genital herpes, the delivering medical provider may perform a caesarian delivery to prevent the infant from becoming exposed to the genital herpes while passing through the infected birth canal. If the mother receives early prenatal care, she may be tested for syphilis so that treatment can be started to prevent transmission to the infant while it is in the uterus.

Tuberculosis

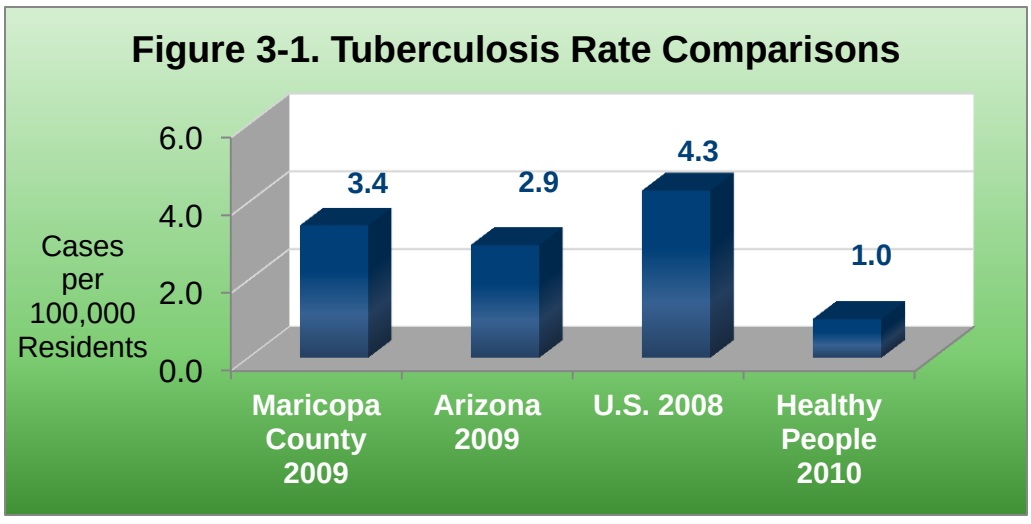
Key Findings



- The rate of tuberculosis cases in Maricopa County in 2009 was above the Healthy People 2010 goal but below the U.S. rate
- The rate of new tuberculosis cases decreased between 2005 and 2009.
- Tuberculosis disproportionately affected American Indian, Asian, Black, Hispanic, and male residents.
- In 2009, the Maricopa County death rate from tuberculosis was lower than the U.S. rate.

TB Rate Not at Healthy People Goal

Tuberculosis (TB) is a bacterial infection that is spread through contact with aerosolized droplets. TB is one of the oldest pathogens known to man. The disease is caused by a bacterium called *Mycobacterium tuberculosis*. It typically infects the lungs, but can occur in other locations in the body such as the heart, bones, and skin. With the discovery of antibiotic treatments, the number of cases decreased in the United States. However, with the increase in the number of



immigrants arriving with TB and the evolution of antibiotic-resistant TB, the number of new cases in the United States began to increase again. A concern both here in the United States and internationally is co-infection with HIV. Individuals that are infected with HIV are more susceptible to TB.

In 2009, there were 138 new cases of TB in Maricopa County. Of the 138 cases, 111 (80.4%) were infections in the lungs. The remaining 27 cases were classified as pleural (7 cases), lymphatic (12), and other (8). There were also 10 co-infections with HIV.

As shown in Figure 3-1, the rate of tuberculosis in Maricopa County in 2009 was 3.4 cases per 100,000 residents. This rate was higher than the Arizona rate (2.9 per 100,000) but lower than the United States rate for 2009 (4.3 per 100,000). All of these tuberculosis rates were higher than the Healthy People 2010 goal of 1.0 new case per 100,000 residents.

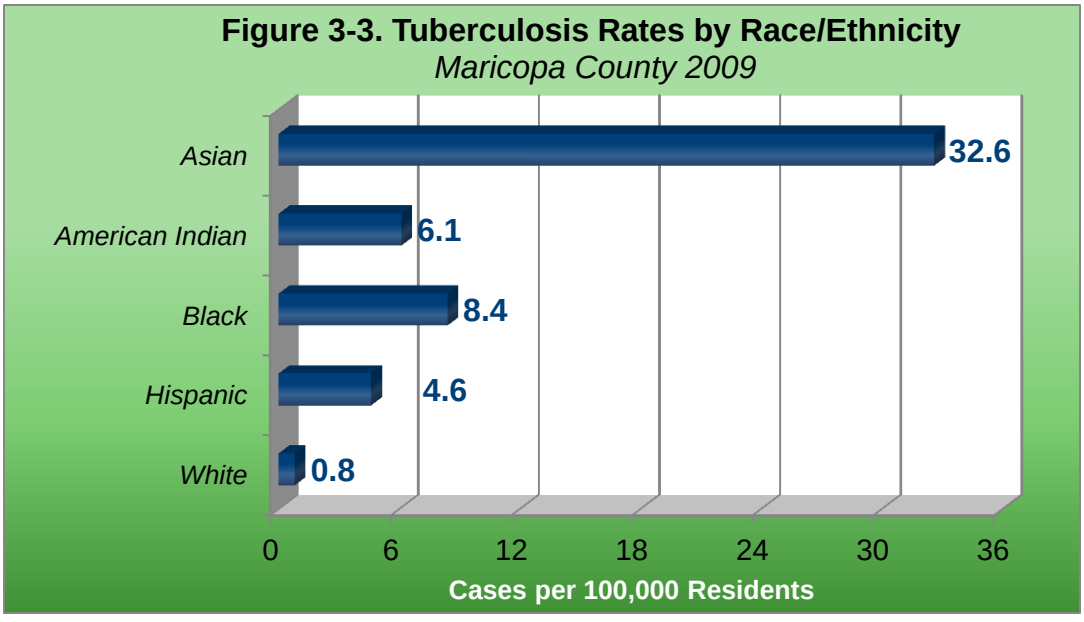
In 2005, there were 4.6 new tuberculosis cases per 100,000 residents in Maricopa County. Overall, the rate decreased during the 5-year time period from 4.6 cases to 3.4 cases per 100,000 residents as shown in Figure 3-2.

Asians, Blacks, Hispanics, and American Indians Most at Risk

In 2009, White residents had the lowest rates of new tuberculosis cases than all other race/ethnicity groups. As shown in Figure 3-3, Asian residents had the highest rate of new tuberculosis cases at 32.6 cases per 100,000 residents. Black residents had the next highest rate (8.4) followed by American Indian (6.1) and Hispanic residents (4.6). These rates were more than five times greater than the rate for White residents (0.8). In 2009, one out of three cases occurred in a foreign-born person.

Maricopa County males made up nearly 62% of the new tuberculosis cases in 2009.

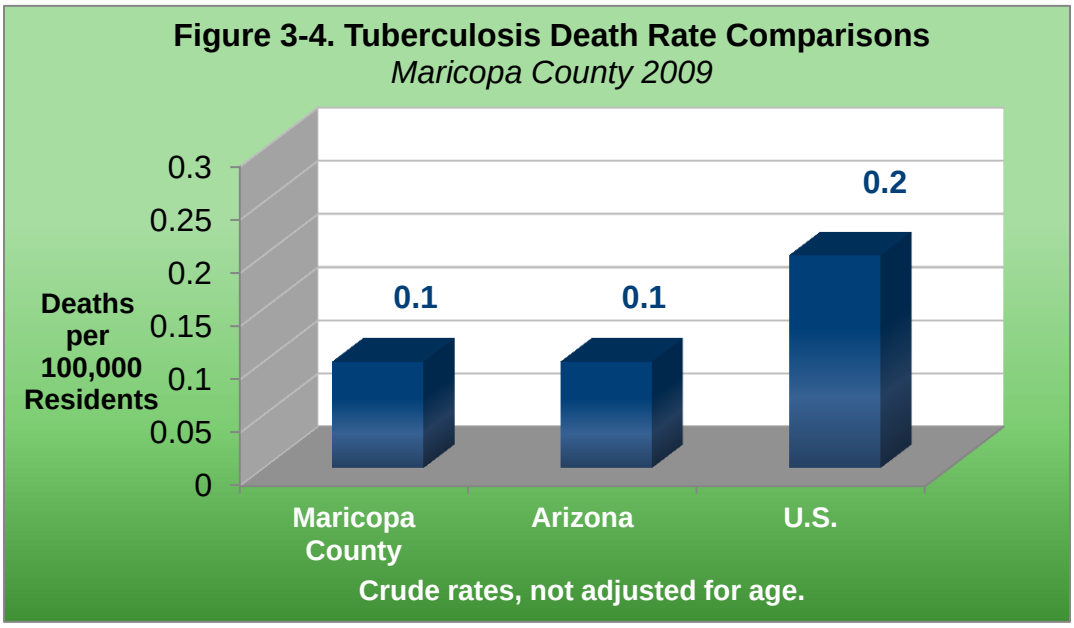
Figure 3-3. Tuberculosis Rates by Race/Ethnicity
Maricopa County 2009



TB Death Rate Close to U.S. and State Rates

In 2009, 5 residents of Maricopa County died of tuberculosis. As shown in Figure 3-4, there were 0.1 deaths per 100,000 residents.

This was the same rate as the rate for Arizona. The rate for the United States was slightly higher in 2009 with a rate of 0.2 deaths per 100,000 residents.



Vectorborne & Zoonotic Diseases

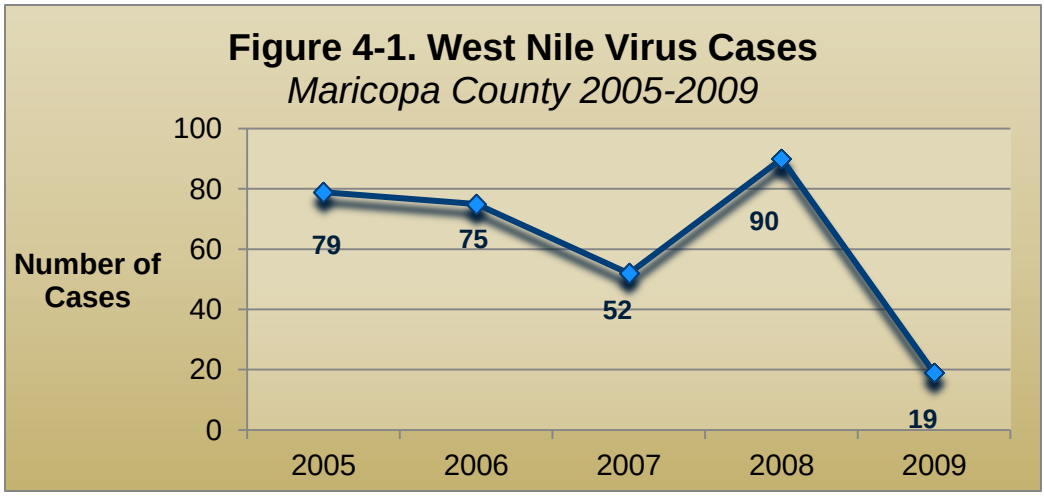
Key Findings

- In 2009, there were 19 confirmed cases of West Nile virus in Maricopa County. This was the fewest cases reported since the disease appeared in Maricopa County during 2003.
- Foreign travel resulted in 4 confirmed cases of Dengue and 9 confirmed cases of malaria in Maricopa County residents.
- There were 435 Maricopa County residents with confirmed aseptic (viral) meningitis in 2009.
- There were no infections due to anthrax, hantavirus, or plague in Maricopa County in 2009.
- Despite 9 known exposures to rabid animals, there were 0 cases of human rabies. Forty-one residents were documented as receiving rabies prophylaxis.

Many Types of Vectoborne and Zoonotic Diseases

Zoonotic diseases are diseases that can be spread between animals and humans. Zoonotic diseases include leptospirosis, rabies, and hantavirus among others. Vectorborne diseases are diseases that can be spread to humans or other animals by a living organism such as a mosquito, flea, or tick. Vectorborne diseases include West Nile virus (WNV), malaria, and Lyme disease.

In 2009, there were 474 reported cases of vectoborne/zoonotic diseases (VBZD) in Maricopa County residents. The vast majority of these cases were for aseptic meningitis, but also included cases of brucellosis, dengue, Lyme, malaria, and West Nile virus. Some of these diseases were acquired outside of Maricopa County such as the Lyme disease, malaria, and dengue.

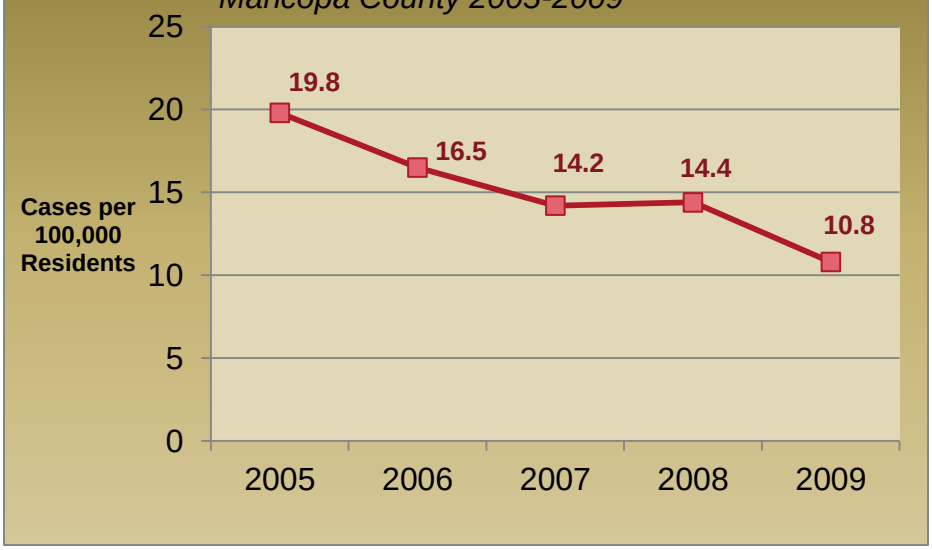


West Nile Virus Cases Down

After aseptic meningitis, the most common locally-acquired VBZD was West Nile virus (WNV). West Nile virus is a mosquito-borne virus that causes a non-specific, self-limited, flu-like illness that typically resolves on its own without medical treatment. The disease cannot be passed from person to person except in rare cases such as blood transfusions and organ donation.

The first cases of WNV acquired in Maricopa County were in 2003. Figure 4-1 shows the number of cases reported between 2005 and 2009. The fewest number of cases reported since first appearing were in 2009 when only 19 cases occurred. WNV can become fatal, but in 2009 there were no reported deaths due to WNV.

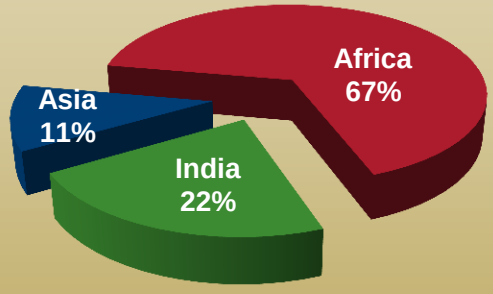
Figure 4-3. Aseptic Meningitis Rates
Maricopa County 2005-2009



International Travel Brings Risk of Malaria and Dengue

In 2009, there were 4 reported cases of dengue and 9 cases of malaria.

Figure 4-2. Malaria Cases by Region of Transmission
Diagnosed in Maricopa County 2009



Dengue is a viral disease that is contracted through the bite of a mosquito. The vast majority of cases occur outside of the 48 contiguous United States, but transmission has occurred locally in places in Southern Texas. The type of mosquito that can transmit dengue (*Aedes*) lives in Maricopa County so it is possible that locally acquired cases will occur in the future. All four cases in Maricopa County residents were acquired outside of the United States in 2009.

Malaria is a blood-borne parasitic disease that is also contracted through the bite of a mosquito. Worldwide, malaria infects hundreds of millions of people each year, killing millions of people, the majority being children under

5-years of age. Malaria does not occur in the United States, and as shown in Figure 4.2, all 9 cases of malaria in Maricopa County residents in 2009 were acquired outside of the United States.

Aseptic Meningitis Most Common VBZD

In 2009, there were 435 reported cases of aseptic meningitis, making it the most commonly reported VBZD, although not all cases can be confirmed as vectorborne/ zoonotic. Aseptic meningitis is a syndrome caused by a number of different viral diseases such as enterovirus, herpes simplex virus and VBZD viruses. Symptoms include sudden fever, stiffness in the neck, and headache. Diagnosis is done by identifying white blood cells in the cerebrospinal fluid (CSF) with no growth of an organism such as a bacterium. As shown in Figure 4-3, the rate of Aseptic Meningitis cases has decreased since 2005.

Other Vectorborne/Zoonotic Diseases Reported in Maricopa County Residents

In 2009, there was 1 case of Brucellosis reported. Brucellosis is a systemic bacterial infection that is usually associated with exposure to infected animals in farm settings. Brucellosis can also be contracted by eating unpasteurized dairy products such as cheese. As shown in Figure 4-4, there are only a few Brucellosis cases each year in Maricopa County.

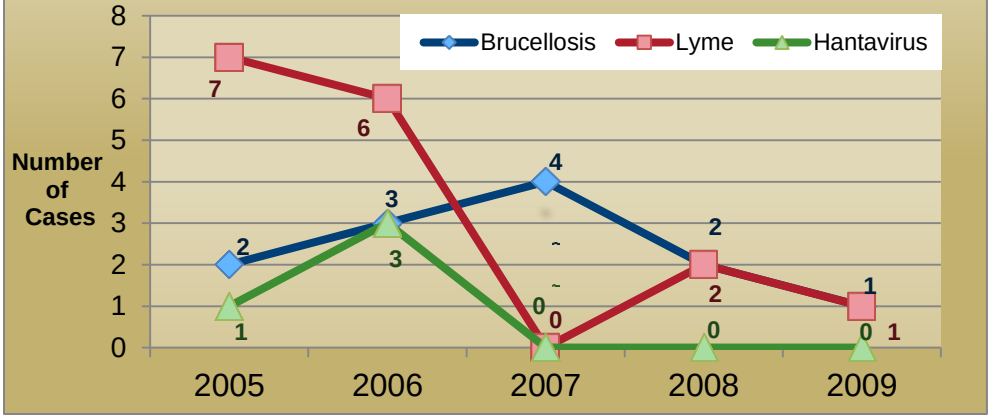
In 2009, there was also 1 case of Lyme disease reported. Lyme disease is caused by a bacterium and is spread through the bite of tick called the blacklegged tick. This tick is not found in Arizona, and therefore, all cases of Lyme disease in Maricopa County were contracted in other states.

There were no cases of Hantavirus reported in 2009. Hantavirus is a virus that causes respiratory distress in individuals. It is spread through the urine, droppings, or saliva of infected rodents. People breathe in the virus when the rodent waste is aerosolized, such as during cleaning.

No Human Rabies Cases in Over 30 Years

Rabies is perhaps one of the most frightening diseases due to its nearly 100% fatality rate. Rabies is a viral disease of mammals that infects the central nervous system causing neurological disease. It is transmitted when an infected animal bites a human or when an

Figure 4-4. Selected Vectorborne Diseases
Maricopa County 2005-2009



infected animal's saliva, central nervous system tissue, or cerebral spinal fluid comes in contact with a human's open wound or a mucous membranel. There has not been a reported case of rabies in a human in Maricopa County in over 30 years. Due to the vaccination policy for cats and dogs, there has not been a report of rabies in a domestic cat or dog in 30 years.

Despite the fact that domestic animals have been free of rabies in Maricopa County for years, wild animals infected with rabies continue to be found. In 2009, there were 13 confirmed animals for rabies, 11 bats, a fox, and a horse. In 2009, there were 9 instances when humans were exposed to animals that turned out to be carrying the rabies virus. The individuals exposed to the rabid animals were treated with prophylaxis rabies shots to prevent rabies disease in the person. There were also several people who received prophylaxis rabies shots for precautionary reasons because the animal was unable to be monitored or tested to rule out rabies. In total, 41 residents received rabies prophylaxis in 2009 based on the recommendation of Maricopa County Department of Public Health staff.

Foodborne and Waterborne Diseases

Key Findings

- In 2009, there were 1,863 reported cases of disease caused by food or water. This was an increase from the number of cases reported in 2005.
- In 2009, only Listeriosis met the Healthy People 2010 goal.
- A national outbreak due to peanut butter sickened 5 Maricopa County resident with Salmonellosis in late 2008 into early 2009.
- In 2009, the rate of Shigellosis was the highest during the five-year period.
- Children under 5 years old were disproportionately affected by foodborne and waterborne diseases.

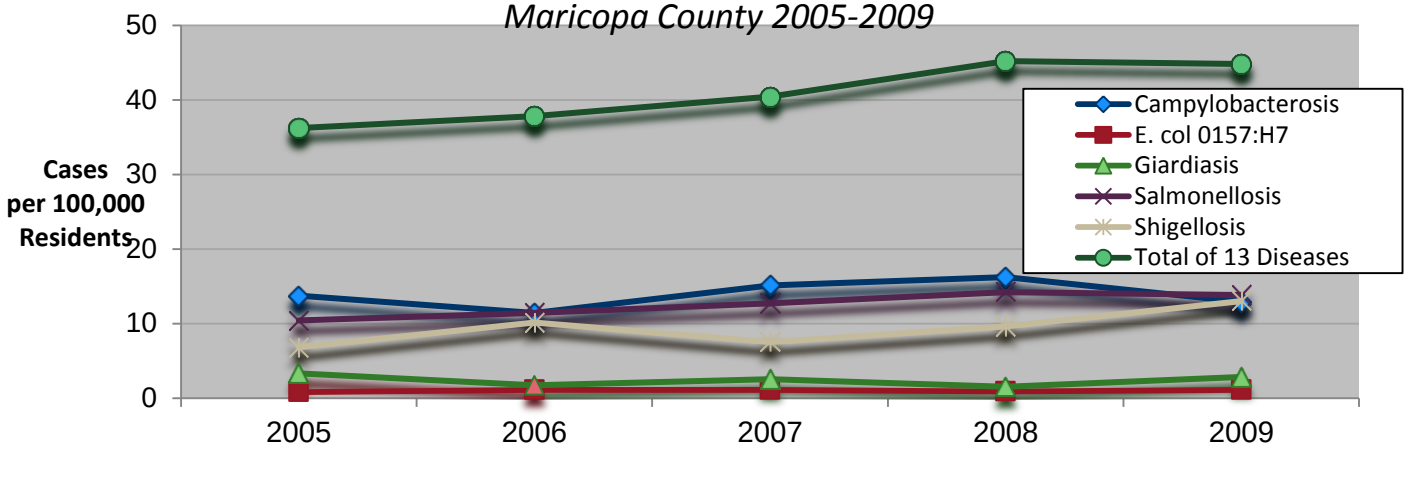
Food/Waterborne Illness Increase Over Five Years

According to the CDC, over 250 foodborne diseases and numerous waterborne diseases have been identified. They are caused by bacteria, viruses, and parasites. A microbe or toxin enters through the gastro-intestinal tract and causes symptoms such as nausea, fever, vomiting, abdominal cramps, and/or diarrhea.

Historically, the food and waterborne diseases most commonly recorded in Maricopa County include campylobacteriosis, giardiasis, salmonellosis, and shigellosis.

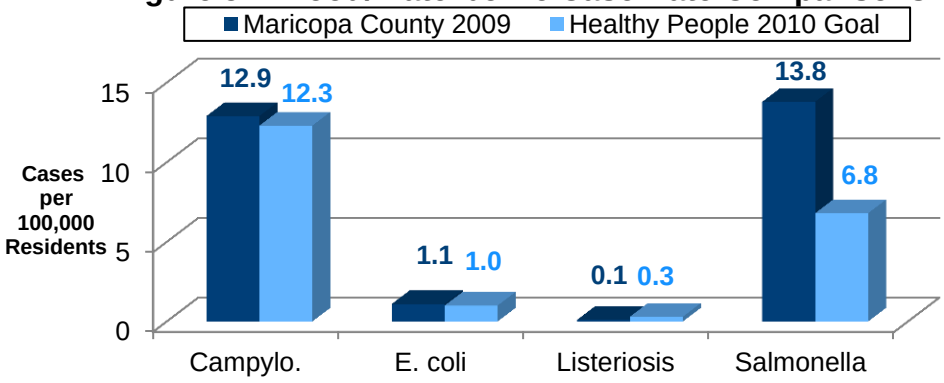
Figure 5-1. Selected Food/Waterborne Case Rates

Maricopa County 2005-2009



As shown in Figure 5-1, there was an increase in the number of salmonellosis cases between 2005 and 2009. Despite several large national outbreaks involving E. coli O157:H7, the rate of disease has remained around 1.0 case per 100,000 residents during this 5-year period. The total of the 13 most common food and waterborne diseases reported in Maricopa County increased from 36.2 cases per 100,000 residents in 2005 to 44.8 cases in 2009. These 13 diseases include shigellosis, salmonellosis, giardiasis, E. coli O157:H7, campylobacteriosis, amebiasis, cryptosporidiosis, listeriosis, vibrio infection, typhoid fever, botulism, cholera, and yersiniosis. It is not known whether the increase is due to more disease or better detection methods.

Figure 5-2. Food/Waterborne Case Rate Comparisons



Healthy People 2010 Goals include rates of specific foodborne diseases. In 2009 in Maricopa County, the rates of disease for only one of four diseases had met the Healthy People goal. As seen in Figure 5-2, the rate of Listeriosis was lower than the goal of 0.3 cases per 100,000 with a rate of 0.1 cases per 100,000 Maricopa County residents. Disease rates came close to meeting the Healthy People 2010 Goals for Camplyobacteriosis and E. coli. The rate for Salmonellosis in Maricopa County was more than double the Healthy People 2010 Goal.

Salmonella Most Common Foodborne Pathogen in 2009

In 2009, the most commonly reported foodborne/waterborne pathogen was Salmonella with 556 cases reported, a rate of 13.8 cases per 100,000 residents. *Salmonella* is a foodborne bacteria that is often associated with poultry and eggs, but may be found on many different types of food. For example, at the end of 2008 and beginning of 2009, *Salmonella* was found in peanut butter, creating a national outbreak that infected hundreds of people. In Maricopa County, there were several cases associated with this outbreak.

Salmonella typically has a higher rate of disease in infants and young children than other age groups. In 2009, nearly 1 in 4 cases of Salmonella was in an individual aged 0-4 years. The rate in this age group was 40.9 cases per 100,000 residents. This

was more than double the next highest rate, seen in children ages 5-9, of 18.4 cases per 100,000.

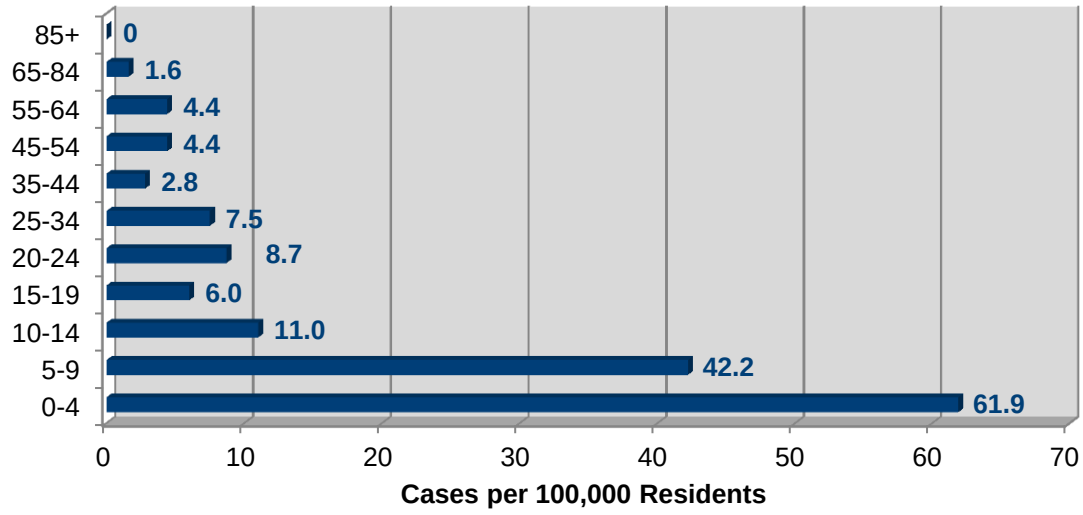
Shigellosis Reaches 5-Year High in 2009

Shigellosis is caused by a bacterium that can be foodborne, but more often than not, is associated with person-to-person transmission via the fecal-oral route. Not surprisingly, then, *Shigella* has a high incidence in young children who are not fully toilet trained and who do not practice rigorous hand hygiene. Many of the cases seen in Maricopa County occur in the day care setting. For this reason, there are rules that can prevent a sick child with shigellosis from returning to day care until they have been tested to prove they no longer have the disease.

As stated, shigellosis has a higher rate of disease in infants and young children. Nearly 40% of all cases of Shigella in 2009 were in individuals aged 0-4 years old.

When adding children aged 5-9, 65% of the cases were in these two age groups. Figure 5-3 shows the rates of Shigellosis by age group.

Figure 5-3. Shigellosis Rates by Age
Maricopa County 2009



Pneumonia & Influenza

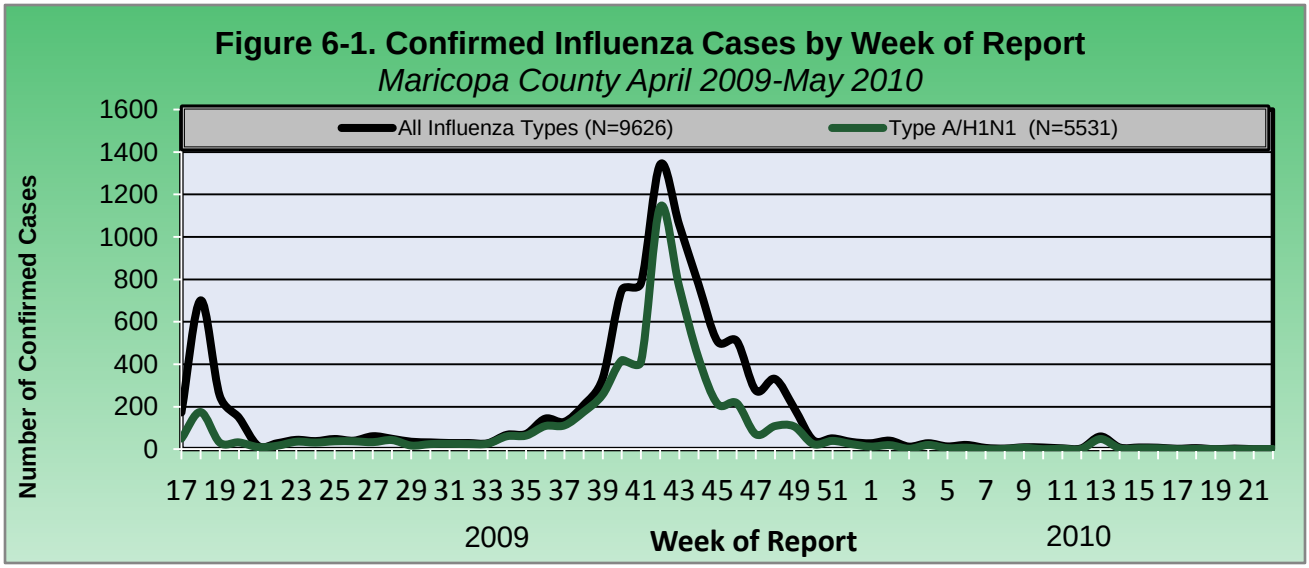
Key Finding

- In 2009, the first influenza pandemic in 40 years occurred.
- Death due to Pneumonia and Influenza was the 9th leading cause of death to Maricopa County residents in 2009.
- American Indians had a disproportionately high number of cases and deaths compared to other race/ethnicities.
- Only 38.4% of the adult population received an influenza vaccine within the past 12 months based off the 2009 BRFSS.

Pandemic Influenza Hits Maricopa County Residents Hard

In June 2009, the first influenza pandemic in 40 years was declared by the World Health Organization. Influenza, more commonly referred to as flu, is a contagious, viral disease spread through aerosolized droplets discharged when a person coughs, sneezes, or talks. Symptoms are typically more severe than those of the common cold and may include fatigue, aches, runny or stuffy nose, fever, sore throat, and a cough. Vomiting and diarrhea may be present; however these are more common in children than adults. Infected individuals may be contagious one day prior to experiencing any symptoms and remain contagious for up to seven days after becoming ill. The illness typically runs its course in several days but

Figure 6-1. Confirmed Influenza Cases by Week of Report
Maricopa County April 2009-May 2010



may take weeks to resolve. The typical flu season occurs between October and April, however, in 2009, the pattern changed.

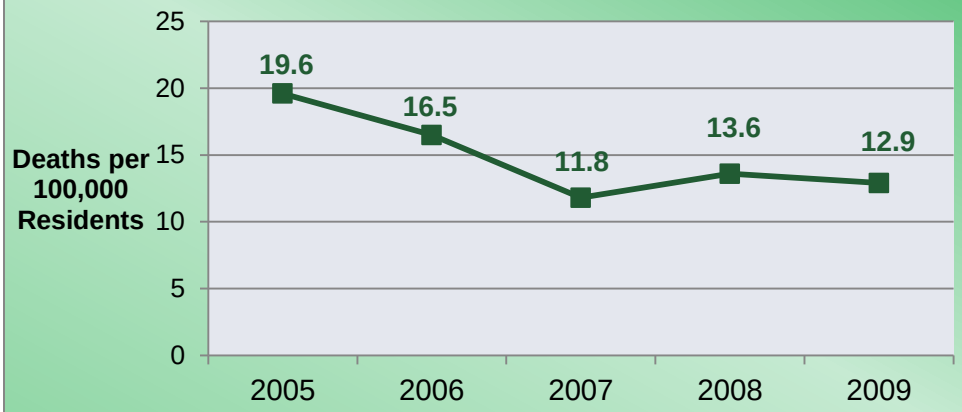
On April 21st, the Centers for Disease Control and Prevention released a report regarding two cases of a new strain of influenza in children from Southern California. At the same time, there were reports from Mexico City about hundreds of young adults dying from a new mysterious illness. In response, people in the United States sought medical care to see if they too were infected with the new influenza.

The first case in a Maricopa County resident was reported on April 27th. Many more soon followed until the end of the school year, when the number of cases began to drop. However, unlike most typical influenza seasons, more cases occurred in the summer months. When school resumed in August, the cases once again began to increase, peaking in early October. By the end of 2009, nearly 9,500 cases (5,500 typed to H1N1) were reported representing over 30% of all reported notifiable diseases in Maricopa County residents in 2009.

On May 14th, the first death due to the H1N1 "swine flu" (now called "2009 H1N1") was reported to Maricopa County Department of Public Health. By the end of the pandemic, 77 total deaths had occurred in Maricopa County residents. Unlike typical influenza seasons, a large number of young adults died due to influenza.

For more information regarding the H1N1 pandemic in Maricopa County, please see the report *H1N1 in Maricopa County Arizona, The 2009-2010 Pandemic*.

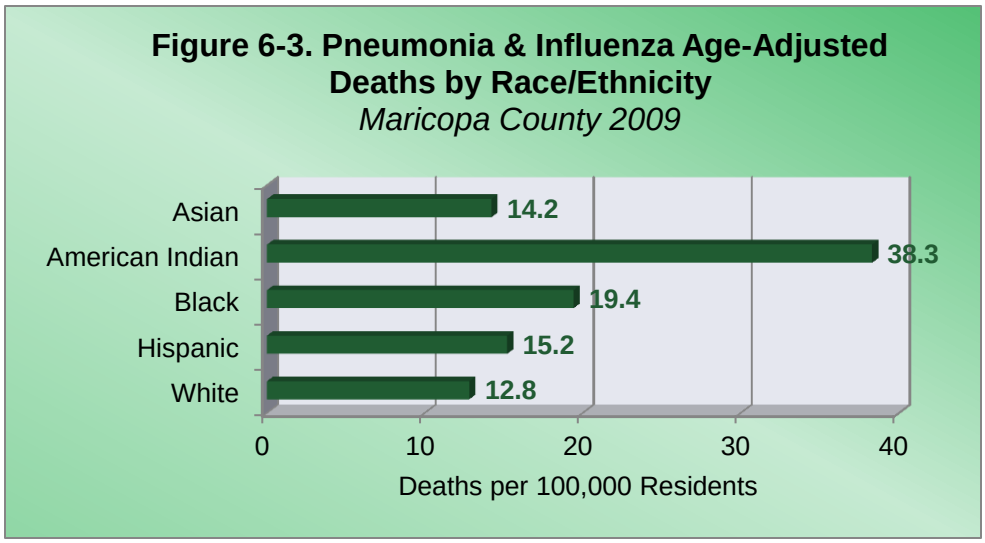
Figure 6-2. Pneumonia and Infleunza Deaths per Year
Maricopa County 2005-2009



Pneumonia & Influenza Deaths Down

In 2009, there were 519 deaths due to pneumonia and influenza combined in Maricopa County residents. These deaths made pneumonia and influenza the 9th leading cause of death. Despite the emergence of a new influenza strain, the death rate due to pneumonia and influenza decreased between 2005 and 2009 from 19.6 deaths per 100,000 residents to 12.6 deaths. Figure 6-1 shows the death rates in Maricopa County.

Deaths classified as pneumonia and influenza deaths include pneumonias caused



by bacteria such as MRSA or viruses such as respiratory syncytial virus (RSV). These deaths do not include pneumonia due to coccidioidomycosis (Valley Fever).

American Indian Residents Had Highest Death Rate in 2009

In 2009, American Indian Maricopa County residents had the highest age-adjusted death for pneumonia and influenza deaths with a death rate of 38.3 deaths per 100,000 American Indians. Figure 6-2 shows the age-adjusted death rates for each race/ethnicity in Maricopa County. It is not clear why deaths rates were so high for American Indians. MCDPH is participating in a statewide follow-up study to help determine the reasons and prevent similar patterns in the future.

Vaccination Rates Still Low

In 2009, according to data collected from BRFSS, only 38.4% of adult Maricopa County residents received a flu shot in the past 12 months. As seen in Table 6-1, the percent of residents receiving a flu shot was highest in the individuals 65 years and older. The higher percentage may be partially due to the recommendation that all people over 65 years old receive an annual flu shot. In 2009, however, that recommendation changed and nearly everyone in the population was recommended to receive a flu shot.

Table 6-1 Flu Shot in Past 12 Months
Maricopa County 2009 BRFSS

Group	Percent
Total	38.4
Sex	
Male	34.7
Female	42.0
Age group	
18-34	29.8
35-44	28.1
45-54	34.1
55-64	46.8
65+	72.8
Race	
White, non-Hispanic	42.4
Hispanic	26.8

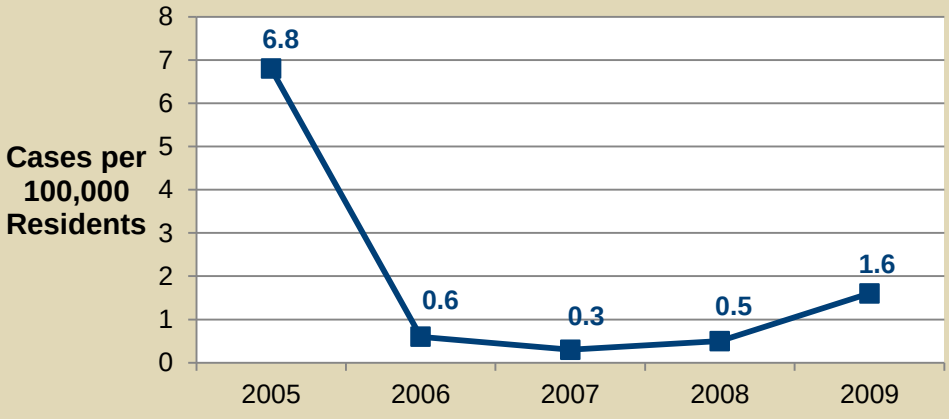
During the past 12 months, have you had a flu shot?

Vaccine Preventable Diseases

Key Findings

- 2009 had the most Pertussis cases since 2005 when there was a major outbreak.
- Children under 5 had the highest rate of Pertussis cases.
- No cases of Measles and 4 cases of Mumps occurred in 2009.
- Healthy People 2010 immunization rate goals were reached or almost reached for Polio, H. influenza, Hepatitis B, measles-mumps-rubella (MMR), and varicella in 19-35 month old toddlers for 2007-2008.

Figure 7-1. Pertussis Case Rates
Maricopa County 2005-2009



A Public Health Success Story

One of public health's greatest successes involves the development and distribution of immunizations. Through immunizations, child mortality rates have decreased significantly worldwide. The devastating scars and deformities caused by disease no longer occur at the frequency seen before immunizations. And smallpox, once a deadly killer of adults and children alike, was completely eradicated from the earth using vaccines.

With the success of immunization in the United States, some diseases, such as polio and measles, have stopped spreading in the United States. Cases of measles still occur in the U.S., but the outbreaks have all started by people who acquired the disease in foreign countries where the diseases are still present among the residents.

In the U.S., unvaccinated children can partially explain why recent outbreaks of childhood diseases like pertussis and measles have been able to spread. Another explanation for recent outbreaks is that immunity to these diseases wane over time, and many need a booster shot, such as the TDaP that

protects against Tetanus, Diphtheria, and Pertussis.

Pertussis on the Rise

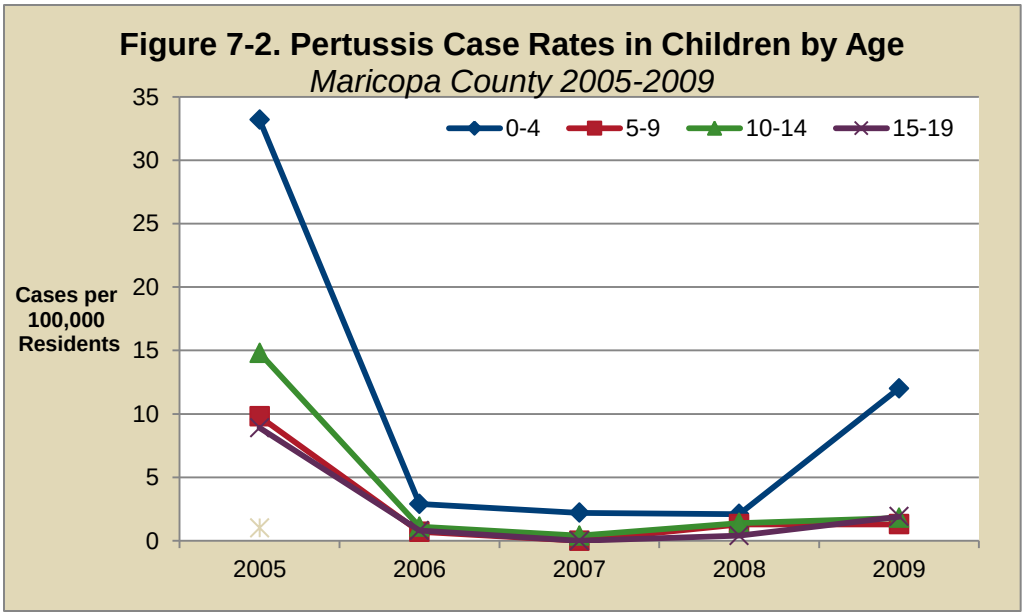
Pertussis (sometimes called "whooping cough") is a very contagious bacterial infection. Individuals infected experience a persistent cough for many weeks. For some individuals, especially young children, the coughing may be so persistent that they will make a whooping noise in an attempt to breathe through a coughing fit. In adults, the disease may be mild, but in young children, especially infants, the disease can be fatal.

Pertussis has a cyclical pattern. This means that every 3-5 years, an outbreak occurs in the population. As seen in Figure 7-1, Maricopa County experienced an outbreak of Pertussis with 248 confirmed cases (6.8 cases per 100,000 residents) in 2005. The number of cases decreased significantly afterwards to around 20 cases per year. 2009 saw an increase in the number of cases once again with 65 (1.6 cases per 100,000), hinting of a possible new outbreak.

As seen in Figure 7-2, children under the age of 5 have the highest rate of disease. The vast majority of cases in this age group occur in infants under the age of one. An explanation for this higher right is due to immunity status. Infants are more susceptible to pertussis because they are too young to be fully immunized against the disease. At the same time, young adults (20-34) have a waning immunity meaning that over time they can become susceptible to diseases that they were immunized for as children. Since young adults are of child-bearing age, they may unknowingly spread the disease to infants. According to recommendations by the Advisory Committee on Immunization Practices (ACIP), pregnant women should receive a booster vaccine called Tdap during the 2nd and 3rd trimester of a pregnancy. (1)

Figure 7-2. Pertussis Case Rates in Children by Age

Maricopa County 2005-2009



In 2005, rates of pertussis were high for children of all age groups. In 2009, the rate was only high in children under five years old. A potential explanation may be due to the development of the Tdap vaccine in 2005 and the mandate that all 6th graders in Arizona schools receive the vaccine in

2008. According to data collected from the National Immunization Survey, 66.6% of teenagers 13-17 in Arizona had received at least one dose of Tdap in 2009 compared to 55.6% of teenagers 13-17 in the U.S. (2)

No Measles in 2009, 4 Cases of Mumps

In 2009, there were 0 cases of measles confirmed in Maricopa County. Measles is a highly contagious airborne virus that causes a fever and rash that starts on the face and moves down the body. It was announced that locally acquire spread was ended in the United States early this century. This meant that the disease was not spreading person to person in the United States. Every outbreak associated with measles since this announcement was started by a contagious person who acquired the disease outside the country. Since 2005, there has only been one confirmed case in Maricopa County.

Another rare vaccine preventable disease is mumps. Mumps is a viral disease that causes fever and swelling in the salivary glands (the area underneath the jaw). It is spread by airborne and droplet (from coughing or sneezing) transmission. Recent outbreaks of mumps have occurred in other places in the United States, but in Maricopa County between 2005-2009, only 11 confirmed cases have been reported; 3 cases in 2006, 4 cases in 2007, and 4 cases in 2009.

Maricopa County Babies Are Getting Their Recommended Shots

The Advisory Committee for Immunization Practices (ACIP) develops a schedule for immunizations for infants, children, and adults. Children should receive all of their initial immunizations before they enter school, with boosters typically scheduled around 6th grade. Ideally, a child will be fully immunized for all vaccine preventable diseases by the time he or she turns 3 years old. The immunizations that children should receive are: Chickenpox, Diphtheria, *Haemophilus influenzae*, Hepatitis A, Hepatitis B, Influenza, Measles, Mumps, Pertussis, Polio, Pneumococcal, Rotavirus, Rubella, and Tetanus. The Healthy People 2010 Goal is for 90% of children 19-35 months old to be immunized for each of these diseases. Table 7-1 shows data collected from the National Immunization

Table 7-1. Immunization Coverage for Children Aged 19-35 Months 2007-2008

Immunization	Maricopa County	U.S.	Healthy People 2010 Goal
≥4 DTaP	82.5%	84.6%	90%
≥3 Polio	**90.6%**	93.1%	90%
≥3 MMR	89.8%	92.2%	90%
≥3 Hib	**90.9%**	91.7%	90%
≥3 Hep B	**92.6%**	93.1%	90%
≥1 Varicella	88.4%	90.3%	90%
≥3 PCV7	88.3%	91.4%	90%
≥4 PCV7	74.7%	77.7%	90%
≥1 Hep A	78.8%	59.6%	----------
3:3:1	**87.9%**	90.0%	80%
4:3:1	**80.3%**	82.7%	80%

DTap=Diphtheria, Tetanus, Pertusis; MMR=Measles, Mumps, Rubella; Hib=*Haemophilus influenza*;PCV7=Pneomococcal; 3:3:1=≥3 DTap, ≥3 Polio, ≥1 MMR; 4:3:1==≥4 DTap, ≥3 Polio, ≥1 MMR

Survey on the immunization rates for some of these diseases for Maricopa County and the United States in 2007-2008. (3)

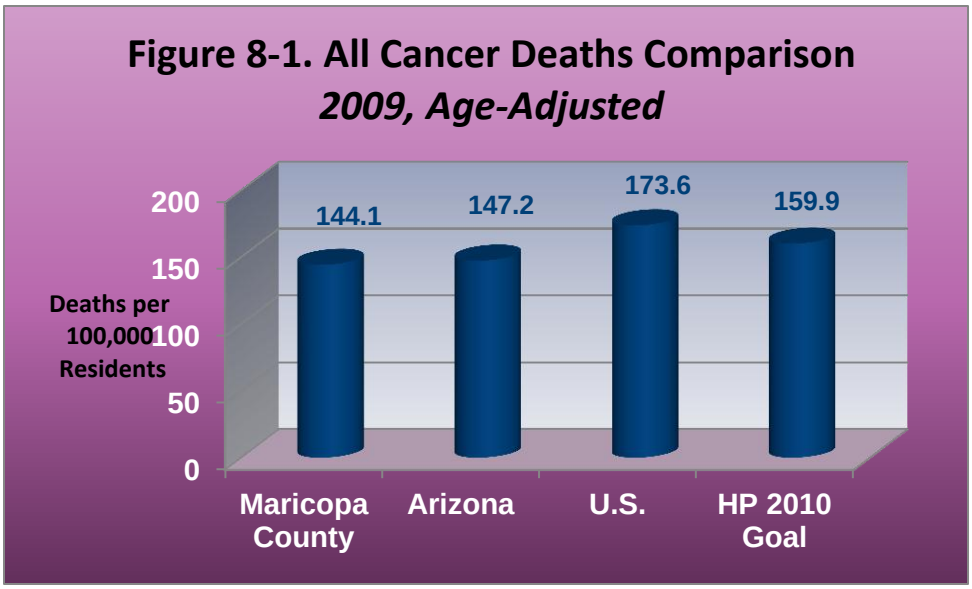
Maricopa County did meet the Healthy People 2010 Goals for some immunizations as shown in bold in Table 7-1.

Chronic Diseases and Other Conditions

Cancer

Key Findings

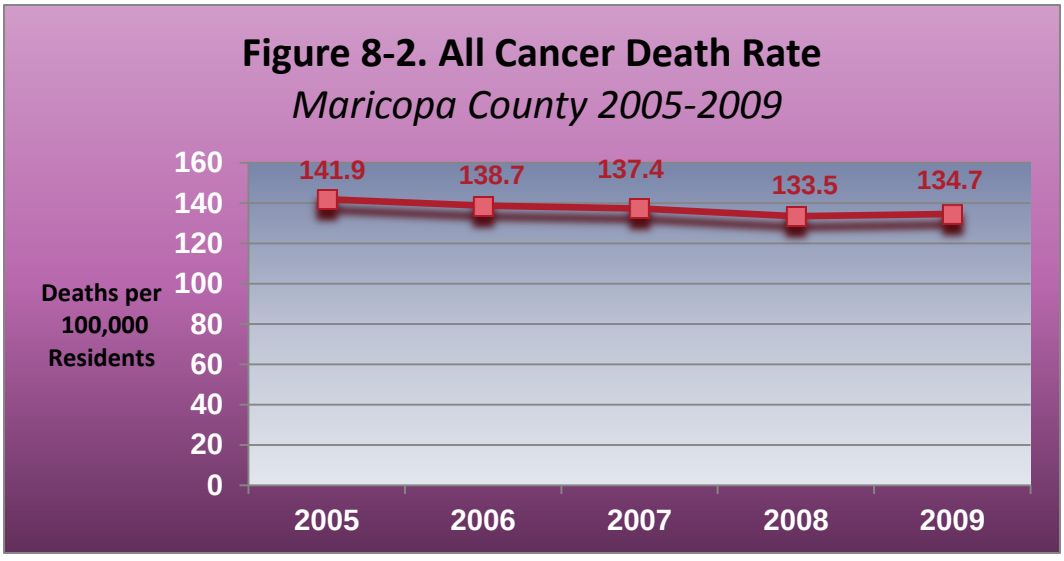
- Cancer was the leading cause of death in Maricopa County in 2009.
- The cancer death rate was lower in Maricopa County than both the U.S. rate and the Healthy People 2010 goal.
- The cancer death rate decreased between 2005 and 2009.
- Lung cancer accounted for the largest proportion of cancer deaths in Maricopa County in 2009, followed by lymphoid/hematopoietic, colon, breast, and pancreatic cancer.



- Black residents had the highest age-adjusted death rate due to cancer followed by White residents.

The Leading Cause of Death

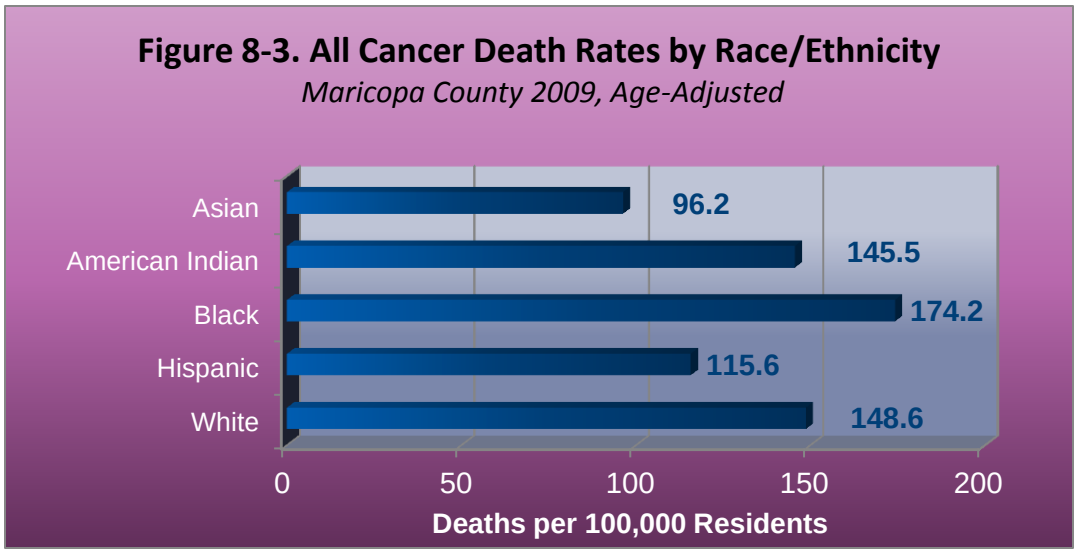
During 2009, 5,420 Maricopa County residents died due to cancer, making it the leading cause of death. It surpassed heart disease, which had been the leading cause of death in prior years. There were 134.7 deaths for every 100,000 Maricopa County residents during 2009. The age-adjusted rate of death due to cancer was 144.1 per 100,000 residents. The Maricopa County rate was below the U.S. rate of 175.5 and below the Healthy People 2010 goal of 159.9. See Figure 8-1.



Slight Decrease in Rate Over Time

As shown in Figure 8-2, the death rate from all cancers has decreased slightly

during the period between 2005 and 2009.



Lung Cancer Most Common

More than 1,400 of the people who died of cancer in Maricopa County died of lung cancer-26% of all cancer deaths. The next highest number of cancer deaths-484 deaths—was due to a group of related cancers including lymphoid, hematopoietic and related cancers such as leukemia or non-Hodgkin's lymphoma. There were 457 colon, rectum, and anal cancer deaths; 383 female deaths from breast cancer; 342 deaths from pancreatic cancer; and 285 prostate cancers to males. (See Table 8-1 below).

Lung cancer deaths are highly associated with cigarette smoking. According to the Surgeon General, "cigarette smoking causes 87 percent of lung cancer deaths." (4) In 2009, approximately 14.0% of Maricopa County residents smoked, whereas, 17.9% of United States residents smoked.

Table 8-1. Cancer Deaths by Type
Maricopa County 2009

	Number of Deaths	Rate
All cancers-total	**5,420**	**134.7**
Lung, trachea, bronchus	1,410	35.0
Lymphoid, hematopoietic, etc	484	12.1
Colon, rectum, anus	457	11.4
Breast (female only)*	383	19.2
Pancreas	342	8.5
Urinary	288	7.2
Prostate (male only)*	285	14.0

Note: Breast cancer rate is calculated among females only. Prostate cancer rate among males only.

Black Residents Most at Risk

Black residents of Maricopa County had the greatest risk of dying from cancer. As shown in Figure 8-3, Black residents in 2009, had the highest rate of cancer deaths (age-adjusted 174.2 deaths per 100,000 residents) followed by White and American Indian residents with rates at 148.6 and 145.4, respectively. When looking at the cancer death rate by race/ethnicity, the only race/ethnicity group to not meet the Healthy People 2010 goal of 159.9 deaths per 100.0000 residents was Black residents.

Most Maricopa County Resident Have Not Had Cancer

According to BRFSS data, almost one in ten adult Maricopa County residents reported being told by a healthcare professional that they had cancer at some point in their lives. The age group most likely to report they were told they had cancer was 65 or older. A lower percentage of Hispanic residents than White residents reported that a doctor told them they had cancer.

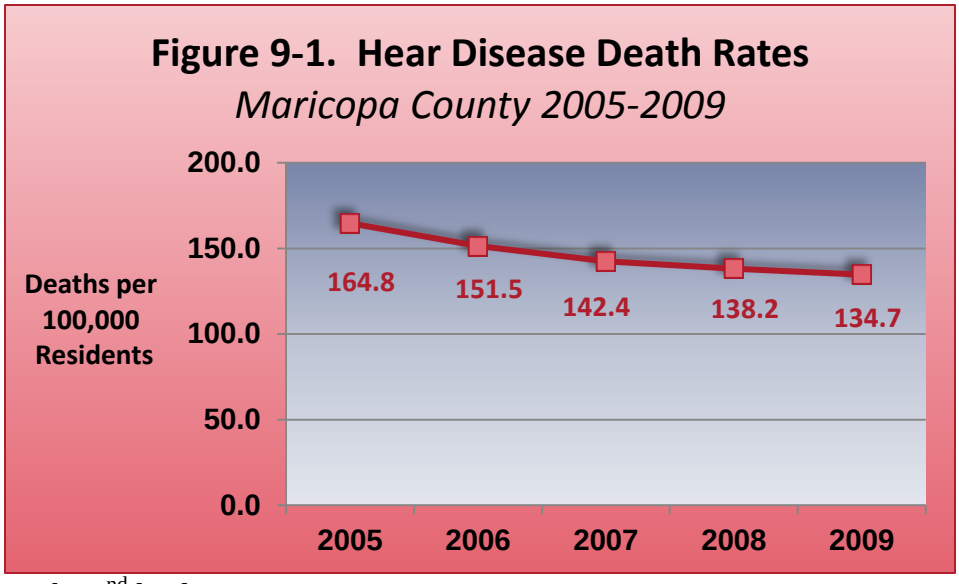
See Table 8-2 for the history or a doctor diagnosis of cancer by sex, age, and race/ethnicity.

Table 8-2 History of Cancer
Maricopa County 2009 BRFSS

Group	Percent
Total	9.7
Sex	
Male	9.4
Female	10
Age group	
18-34	0.5
35-44	2.2
45-54	10.8
55-64	19.7
65+	28.9
Race	
White, non-Hispanic	12.3
Hispanic	1.0

Have you EVER been told by a doctor, nurse, or other health professional that you had cancer?

Heart Disease

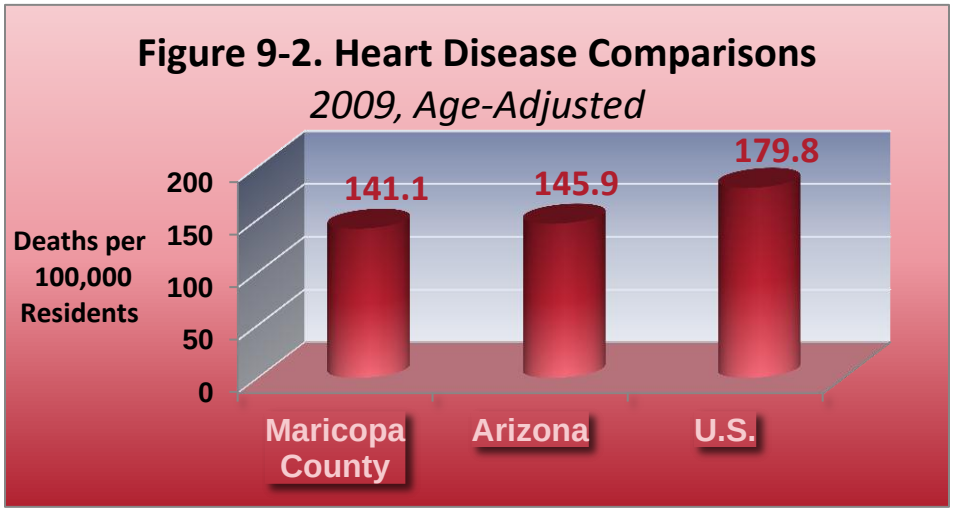


Key Findings

- Heart Disease was the 2nd leading cause of death in Maricopa County in 2009.
- The heart disease death rate in Maricopa County was lower than the U.S. rate and met the Healthy People 2010 goal.
- The heart disease death rate decreased between 2005 and 2009.
- Black residents had the highest deatth rate for heart disease while Asian residents had the lowest.
- Heart disease was the leading cause of death for males in 2009.
- One in every 4 Maricopa County residents say they have been told by a medical professional that they have hypertension.

Heart Disease #2 Cause of Death

In 2009, 5,419 Maricopa County residents died of heart disease. Heart disease was the leading cause of death for over 10 years until 2009 when cancer surpassed it with one additional death.

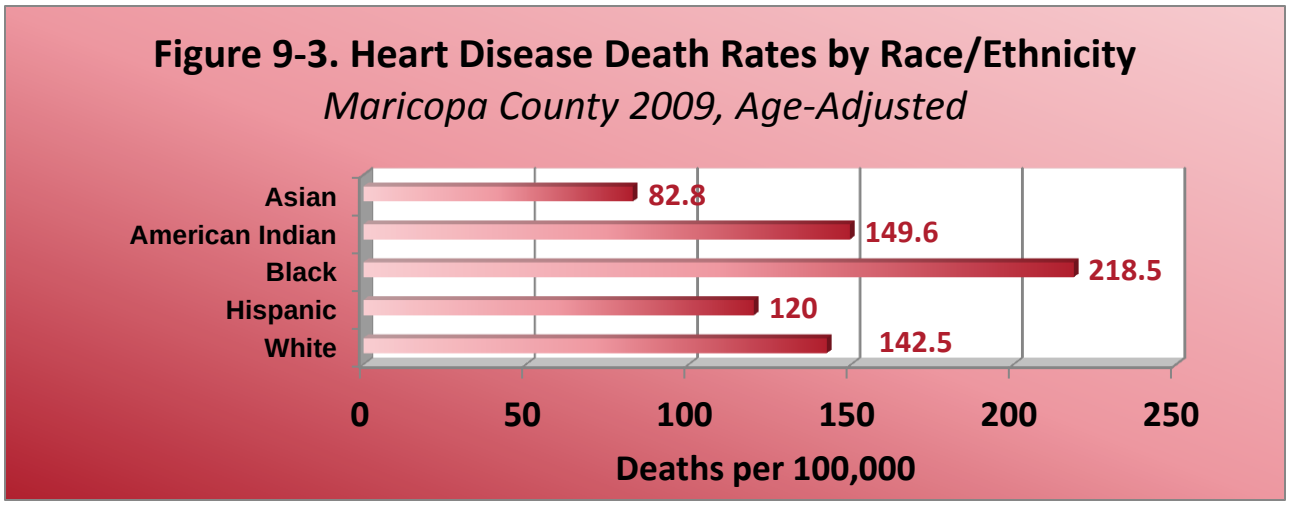


The rate of death from heart disease has decreased each year since 2005. In 2005, the rate was 164.8 deaths per 100,000 residents compared to 134.7 in 2009 (see Figure 9-1). When adjusted for age, there were 141.1 heart disease deaths per

100,000 residents in Maricopa County during 2009. This was below both the rates for Arizona and the U.S., as shown in Figure 9-2.

rate for Asian residents was the lowest (82.8).

The leading cause of death for males in 2009 was heart disease. As shown in Figure 9-4,



Black Residents and Males More at Risk for Heart Disease Deaths

In Maricopa County in 2009, Black residents were the race/ethnic group most at risk for death from heart disease. As shown in Figure 9-3 above, the rate for Black Maricopa County residents was the highest (age-adjusted 218.5 deaths per 100,000 Black residents). This was higher than the rates for American Indian (149.6), White (142.5), and Hispanic (120.0) residents. The

males in Maricopa County have a higher rate of death from heart disease than females. The rate for males was 142.6 deaths per 100,000 males as compared to 125.6 per 100,000 females.

Many at Risk for Heart Disease

There are many risk factors for heart disease deaths. These include high cholesterol and high blood pressure. Tables 9-1 to 9-4 show the percent of Maricopa County residents who responded 'Yes' to questions about certain heart-related conditions. These include coronary heart disease/angina, heart attack, high blood pressure and high cholesterol.

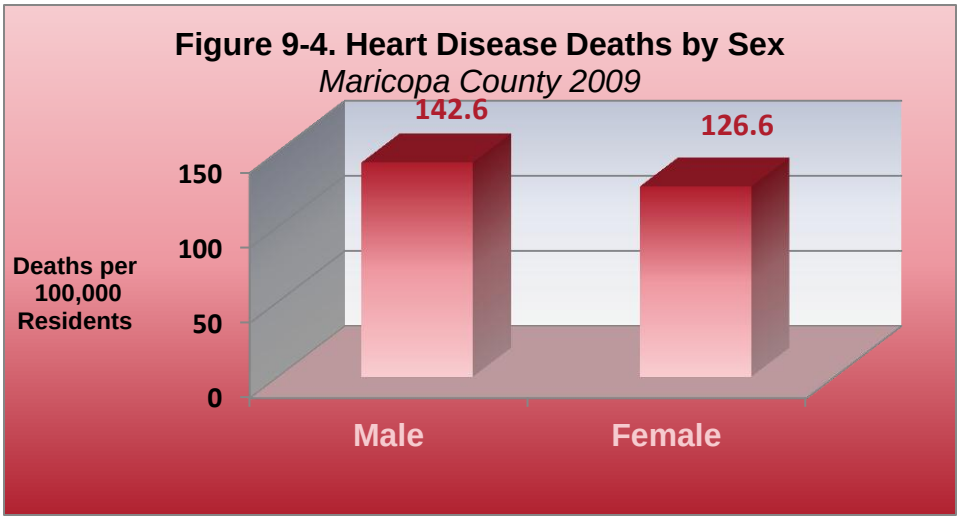


Table 9-1 Coronary Heart Disease
Maricopa County 2009 BRFSS

Group	Percent
Total	2.8
Sex	
Male	3.8
Female	1.8
Age group	
18-34	NA
35-44	0.1
45-54	2.2
55-64	3.6
65+	12.3
Race	
White, non-Hispanic	3.4
Hispanic	0.7

Has a doctor, nurse, or other health professional ever told you that you had angina or coronary heart disease?

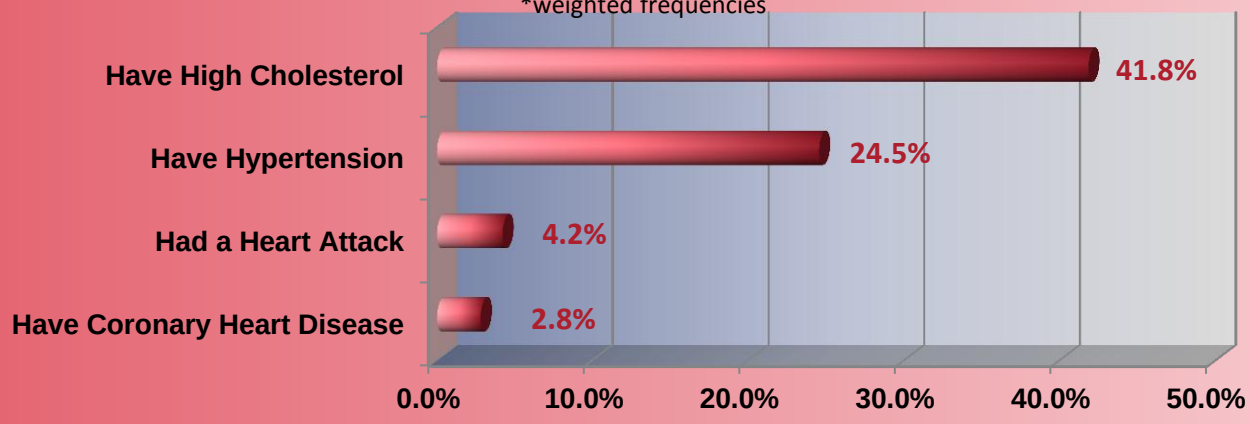
Table 9-2 Heart Attack
Maricopa County 2009 BRFSS

Group	Percent
Total	4.2
Sex	
Male	4.9
Female	3.5
Age group	
18-34	NA
35-44	3.6
45-54	4.8
55-64	5.9
65+	12.3
Race	
White, non-Hispanic	4.5
Hispanic	1.4

Has a doctor, nurse, or other health professional ever told you that you had a heart attack, also called a myocardial infarction?

Figure 9-5 shows the percent of adults living in Maricopa County that answered 'Yes' to each of these questions. While only 2.8% and 4.2% of adults said 'Yes' to having been told they have coronary heart disease or a heart attack respectively, nearly a quarter said they have been told they have high blood pressure and almost half were told they had high cholesterol.

Figure 9-5. BRFSS Has a Physician Ever Told You...
Maricopa County 2009
*weighted frequencies



Males and individuals 55 and older were more likely to answer 'Yes' to all four of the heart-related BRFSS questions. Surprisingly, a large percentage of individuals under 55 answered 'Yes' to having high cholesterol, as shown in Table 9-4.

Table 9-3 High Blood Pressure
Maricopa County 2009 BRFSS

Group	Percent
Total	24.7
Sex	
Male	27.5
Female	21.9
Age group	
18-34	9.3
35-44	17.8
45-54	25.4
55-64	38.5
65+	53.8
Race	
White, non-Hispanic	27.7
Hispanic	13.6

Have you ever been told by a doctor, nurse, or other health professionals that you have high blood pressure?

Table 9-4 High Cholesterol
Maricopa County 2009 BRFSS

Group	Percent
Total	41.3
Sex	
Male	45.4
Female	37.6
Age group	
18-34	29.6
35-44	31.4
45-54	41.8
55-64	54.7
65+	54.6
Race	
White, non-Hispanic	43.2
Hispanic	37.4

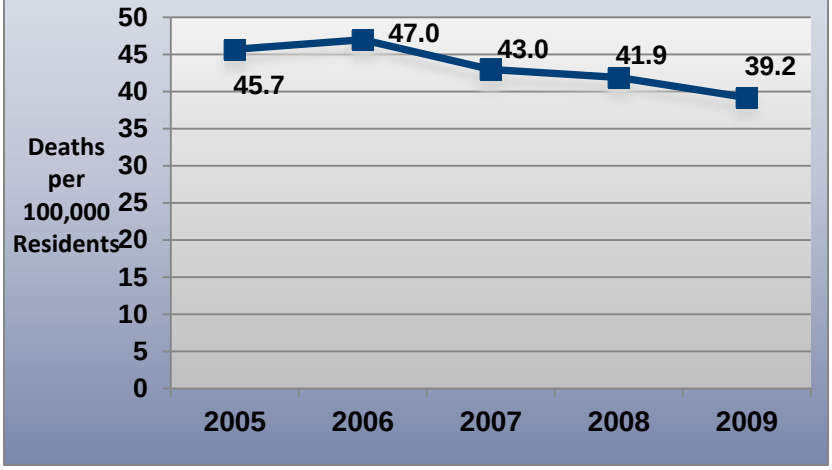
Have you EVER been told by a doctor, nurse or other health professional that your blood cholesterol is high?

Unintentional Injury

Key Finding

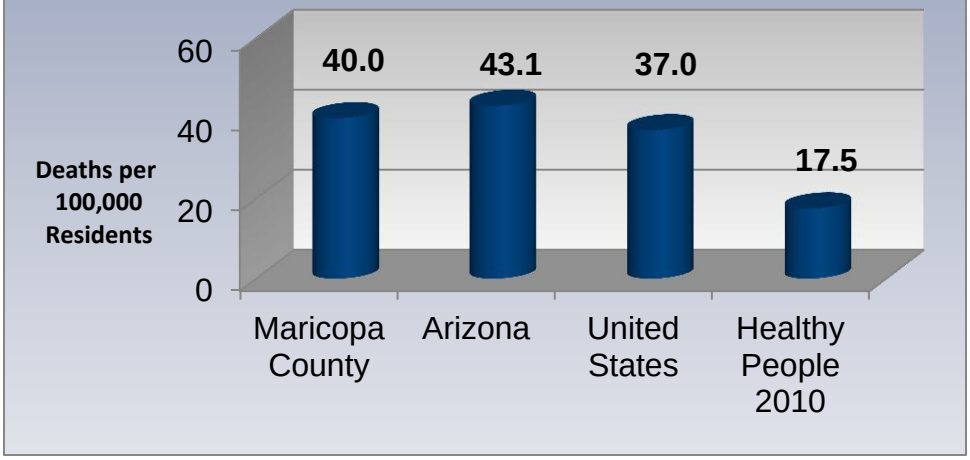
- Unintentional injury deaths were the 3rd leading cause of death in Maricopa County in 2009.
- The unintentional injury death rate was higher than the U.S. rate and did not meet the Healthy People 2010 goal.
- The unintentional injury death rate decreased slightly between 2005 and 2009.
- American Indian residents had the highest age-adjusted unintentional injury death rate while Asian residents had the lowest.

Figure 10-1 Unintentional Injury Death Rates
Maricopa County 2005-2009



- Unintentional injury deaths due to motor vehicle accidents have decreased between 2005 and 2009, going from the leading cause of unintentional injury death to the 3rd leading cause.
- Unintentional poisoning was the leading cause of unintentional injury deaths in 2009 followed by falls and motor vehicle accidents.

Figure 10-2 Unintentional Injury Death Comparison
2009, Age-Adjusted



Unintentional Injury 3rd Leading Cause of Death

In 2009, there were 1,576 Maricopa County deaths due to unintentional injuries. Unintentional injuries include deaths due to motor vehicle accidents (MVA), unintentional poisonings, falls, and drowning.

Unintentional injury was the 3rd leading cause of death each year during the five-year period of 2005-2009.

The rate of death from unintentional injuries has decreased since 2005. Although an increase was observed between 2005 and 2006, the rate in 2009 was lower than the rate observed in 2005 as seen in Figure 10-1. Adjusted for age, there were 40.0 unintentional injury deaths per 100,000 residents in Maricopa County in 2009. This was lower than the rate for Arizona, but higher than the rate for the U.S., where unintentional injury is the 5th leading cause of death. As shown in Figure 10-2, Maricopa County did not meet the Healthy People 2010 Goal of 17.5 deaths per 100,000 residents.

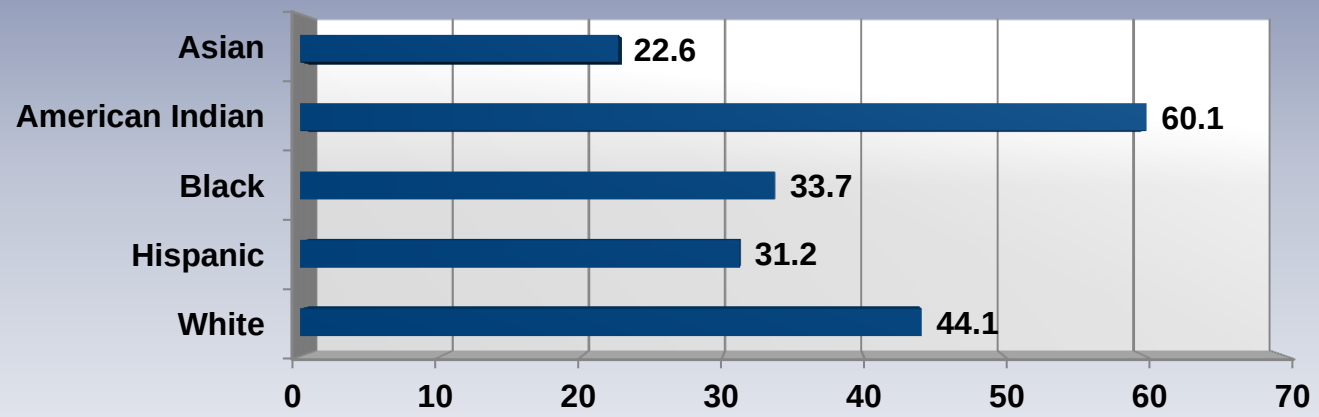
American Indian Residents Have Highest Risk of Unintentional Injury Deaths

In Maricopa County in 2009, American Indians were the race/ethnic group most at risk for death from unintentional injury. As show in Figure 10-3, the death rate for American Indian Maricopa County residents was the highest (age-adjusted 60.1 deaths per 100,000 American Indian residents). White residents had the next highest death rate at 44.1. This was followed by Black (33.7) and Hispanic (31.2) residents. Asian residents had the lowest death rate at 22.6 deaths per 100,000 Asian residents.

Motor Vehicle Accident Deaths Down, Unintentional Poisoning Deaths Up

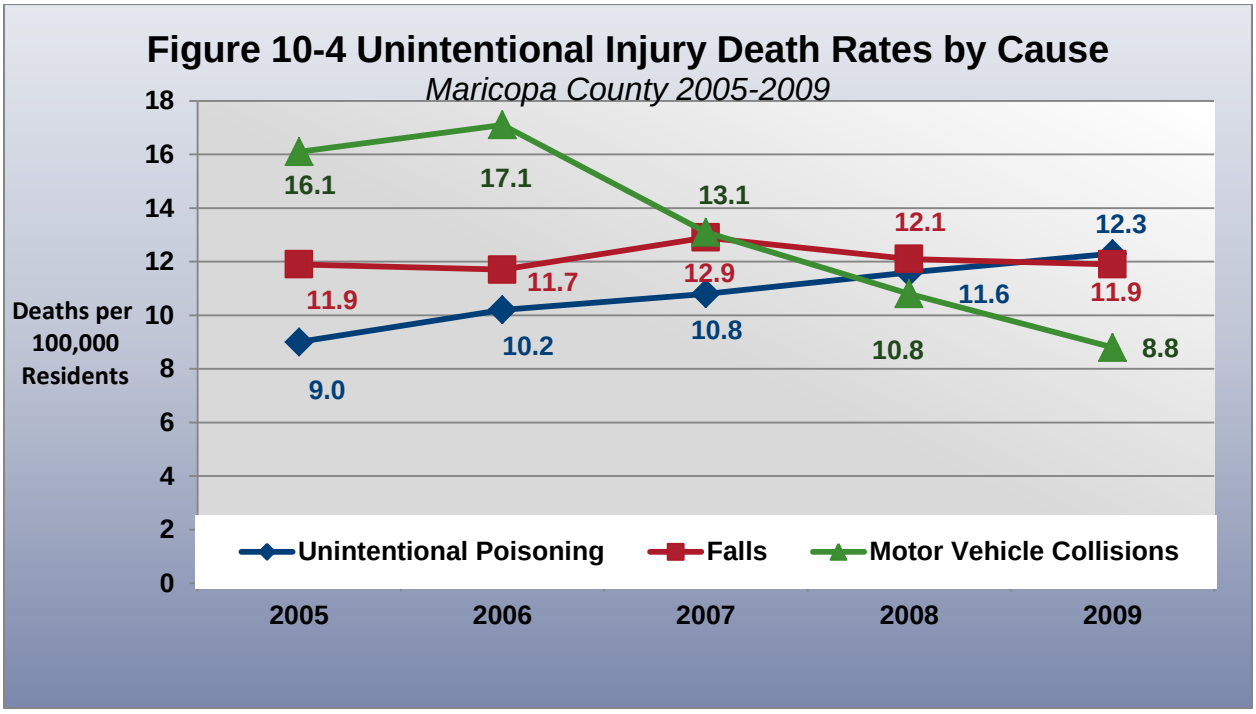
The leading causes for unintentional injury death are MVA, unintentional poisoning, and falls, see Figure 10-4. Since 2005, the death rate for MVA has dropped significantly. It dropped from 16.1 deaths per 100,000 residents in 2005 to 8.8 deaths per 100,000 residents in 2009 (See technical notes for statistical test result). This decrease in the death rate has resulted in MVA deaths going from the leading cause of unintentional injury death to the 3rd leading cause of unintentional injury death. A similar drop has been observed across the country. Due to a decrease in MVA fatalities, the National Highway Traffic Safety Administration

Figure 10-3 Unintentional Injury Death Rates by Race/Ethnicity
Maricopa County 2009, Age-Adjusted

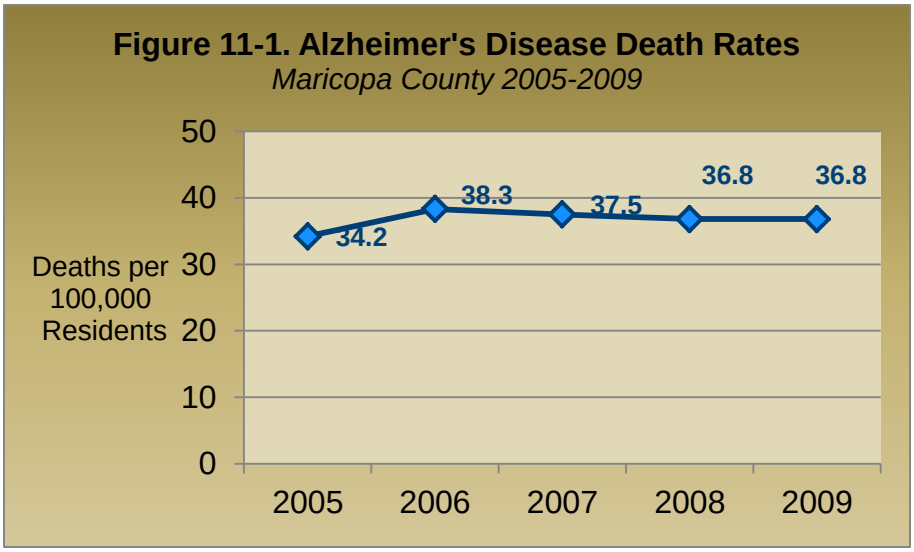


conducted a study looking at deaths through 2008 to identify reasons for the decrease. (5) They identified a significant decline in the number of MVA deaths involving young drivers (16 to 24 years old), multiple-vehicle crashes, and crashes on the weekend. They also identified that metropolitan area that had higher unemployment rates, such as Maricopa County, had higher decreases in the number of MVA deaths. These explanations may explain why Maricopa County's rate has decreased, but that has not been confirmed.

While the death rate due to MVA decreased, the death rate due to unintentional poisonings increased. An unintentional poisoning is a death due to drug misuse, abuse, or overuse. Between 2005 and 2009, the death rate for unintentional poisoning has steadily increased from 9.0 deaths to 12.3 deaths per 100,000 residents. It was the leading cause of unintentional injury deaths in 2009. This increase has been observed nationwide and several reports have been written looking at potential reasons for the increase. A report from the CDC identified a recent increase in the number of poisoning deaths that involved opioids analgesics like morphine. (6)

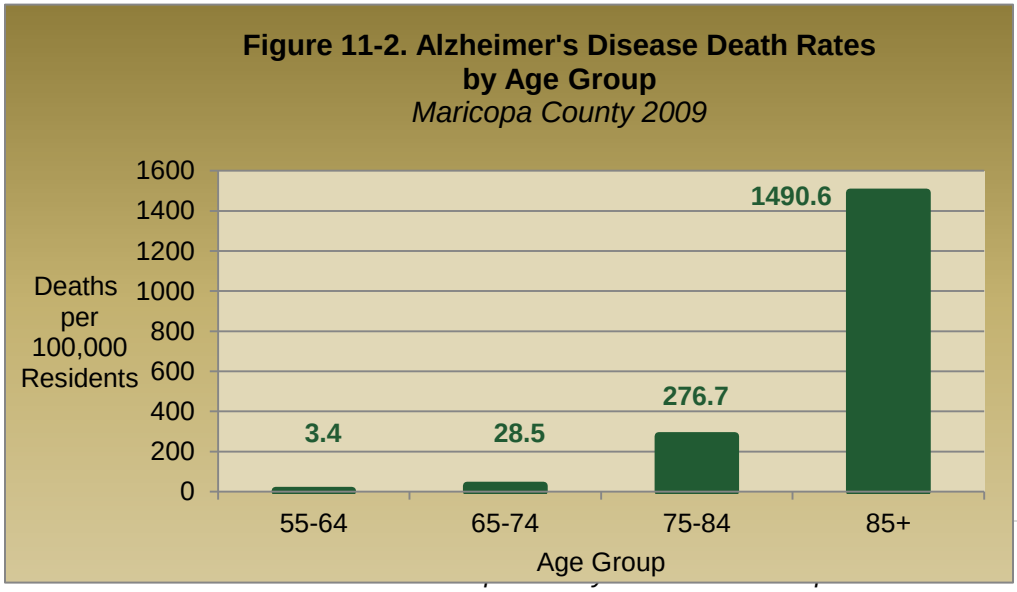


Alzheimer's Disease



Key Finding

- Alzheimer's disease was the 4th leading cause of death in Maricopa County in 2009.
- The death rate for Alzheimer's disease increased between 2005 and 2009.
- The death rate for Alzheimer's disease increased with the decedent's age.
- Black residents had the highest Alzheimer's disease death rate while Asian residents had the lowest.
- Females had a higher death rate for Alzheimer's disease compared to males.



Alzheimer's Disease Rises to #4

In 2009, 1,481 Maricopa County residents died of Alzheimer's disease. This made it the 4th leading cause of death. In the U.S. as a whole, Alzheimer's disease was the 6th leading cause of death in 2009.

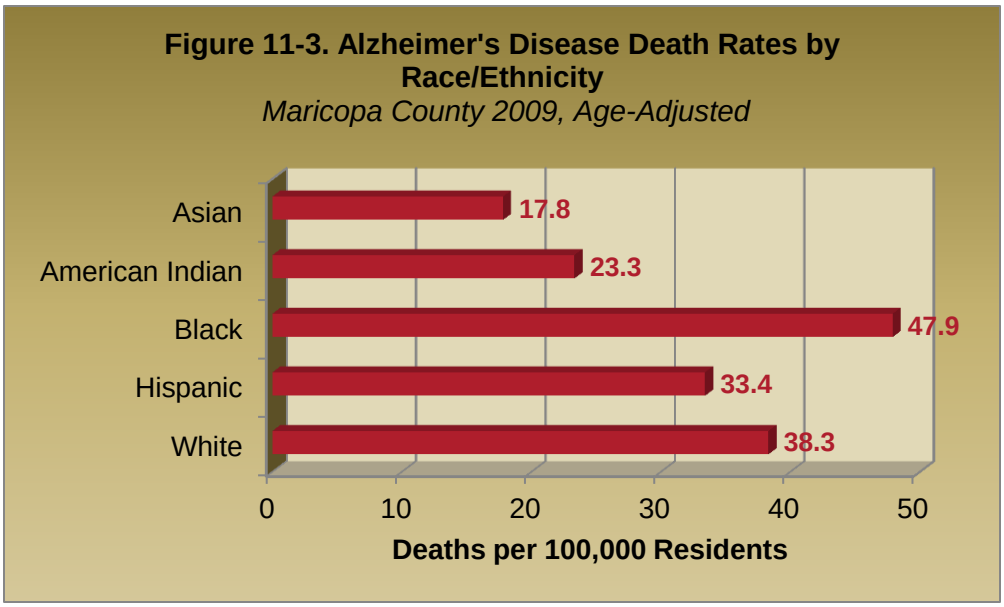
The death rate for Alzheimer's disease has increased since 2005. In 2005, the death rate was 34.2 deaths compared to 36.8 deaths per 100,000 residents in 2009, as shown in Figure 11-1. As the population continues to age, the increase in the death rate for Alzheimer's disease is also expected to increase.

Alzheimer's Death Increase with Age

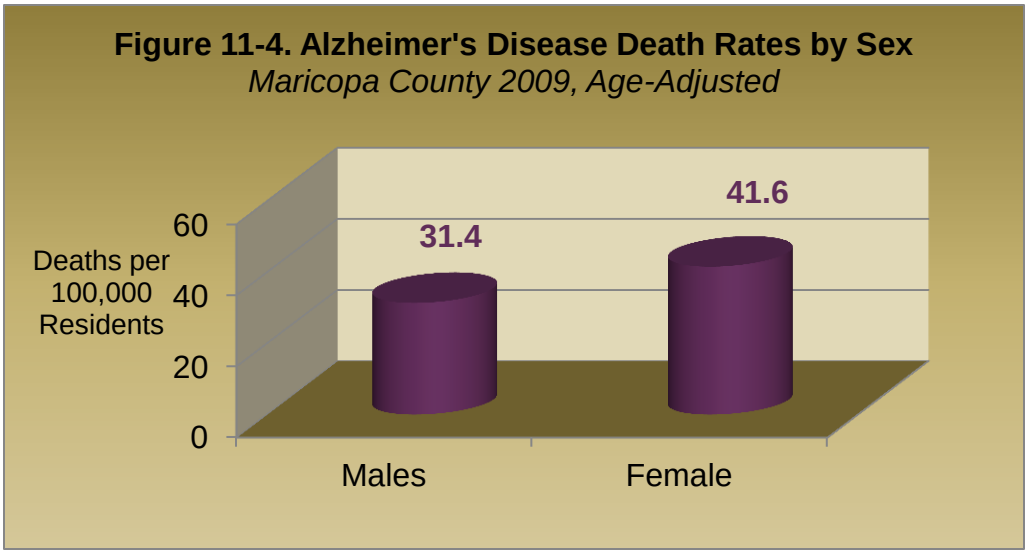
Alzheimer's disease deaths are typically only seen in the elderly population. In 2009, more than half of the deaths occurred in decedents older than 85 years of age and all but 13 were 65 and older. Figure 11-2 shows the death rate by age group in 2009.

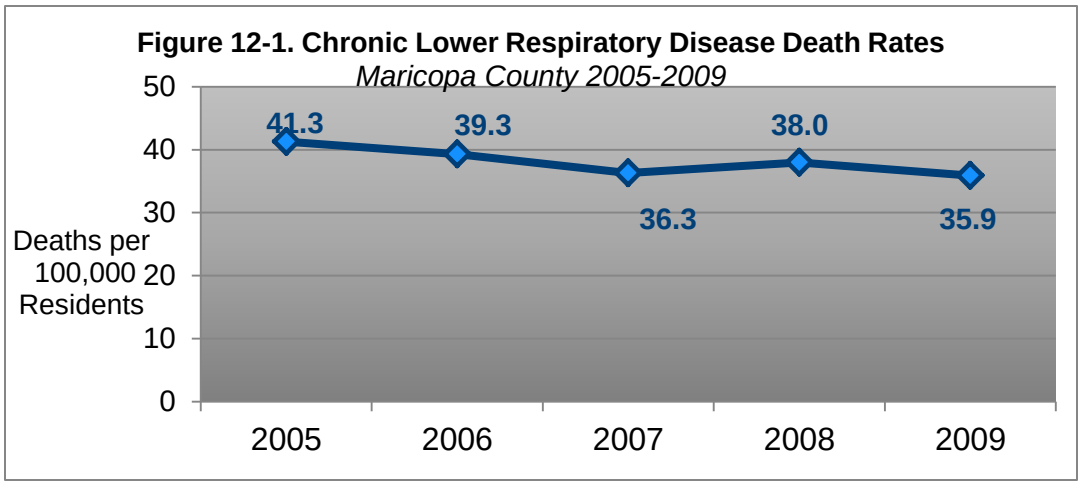
Black Residents and Women Have Highest Alzheimer's Death Rates

In 2009, Black residents had the highest age-adjusted death rate for Alzheimer's disease with 47.9 deaths per 100,000 Black residents. This was followed by White (38.3), Hispanic (33.4), and American Indian (23.3) residents as shown in Figure 11-3. Asian residents had the lowest age-adjusted death rate with 17.8 deaths per 100,000 Asian residents.



Females had an age-adjusted death rate higher than the male rate. As shown in Figure 11-4, the age-adjusted death rate for females was 41.6 deaths per 100,000 female residents compared to 31.4 deaths per 100,000 male residents.





former tobacco smokers while 1 in 7 currently smokes.

Chronic Lower Respiratory

Key Finding

- Chronic lower respiratory diseases were the 5th leading cause of death in Maricopa County during 2009.
- The death rate due to chronic lower respiratory diseases decreased between 2005 and 2009.
- White residents were more likely to die due to a chronic lower respiratory disease than any other race/ethnicity.
- 1 in 6 Maricopa County residents report a history of asthma.
- 1 in 4 Maricopa County residents are

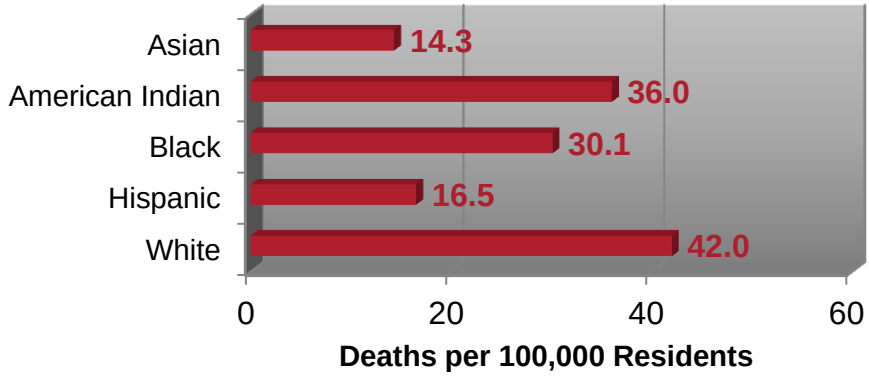
Chronic Lower Respiratory Diseases Decreasing Over Time

Chronic lower respiratory diseases include chronic obstructive pulmonary disease (COPD), emphysema, asthma, and chronic bronchitis. It does not include deaths due to pneumonia and influenza. In 2009, there were 1,444 deaths due to chronic lower respiratory diseases in Maricopa County residents. This made it the 5th leading cause of death in 2009.

The rate of death due to chronic lower respiratory disease has decreased since 2005. In 2005, the death rate was 41.3 deaths per 100,000 residents compared to 35.9 deaths per 100,000 residents in 2009, as shown in Figure 12-1.

White Residents More at Risk for Chronic Lower Respiratory Disease Deaths During 2009 Maricopa County White residents were the race/ethnic group with the highest age-adjusted death rate due to chronic lower respiratory disease. As shown in Figure 12-2, the rate of 42.0 deaths per 100,000 White residents was greater than the death rates for American Indian (36.0), Black (30.1) and Hispanic (16.5) residents. Asians had the lowest death rate with 14.3 deaths per 100,000 Asian residents.

Figure 12-2. Chronic Lower Respiratory Disease Death Rates by Race/Ethnicity
Maricopa County 2009, Age Adjusted



Asthma Common in Maricopa County

As shown in Figure 12-3, the death rate for asthma has remained the same between 2005 and 2009, from 1.1 deaths per 100,000 residents in 2005 to 0.7 deaths in 2009.

A sizable proportion of Maricopa County residents may have or had asthma. One in 6 (16.1%) Maricopa County residents have been told by a medical provider that they have asthma. This is a greater percentage compared to the rest of the country at 13.5%. Asthma was more common in individuals 18-34 (19.2%) than in any other age group. See Table 12-1.

Figure 12-3. Asthma Death Rates
Maricopa County 2005-2009

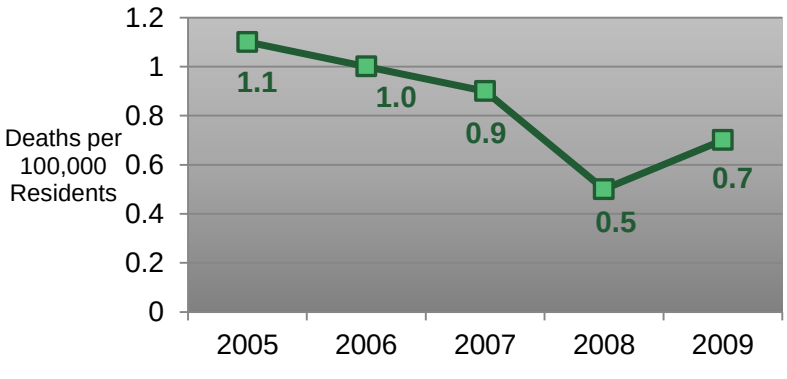


Table 12-1 Asthma History
Maricopa County 2009 BRFSS

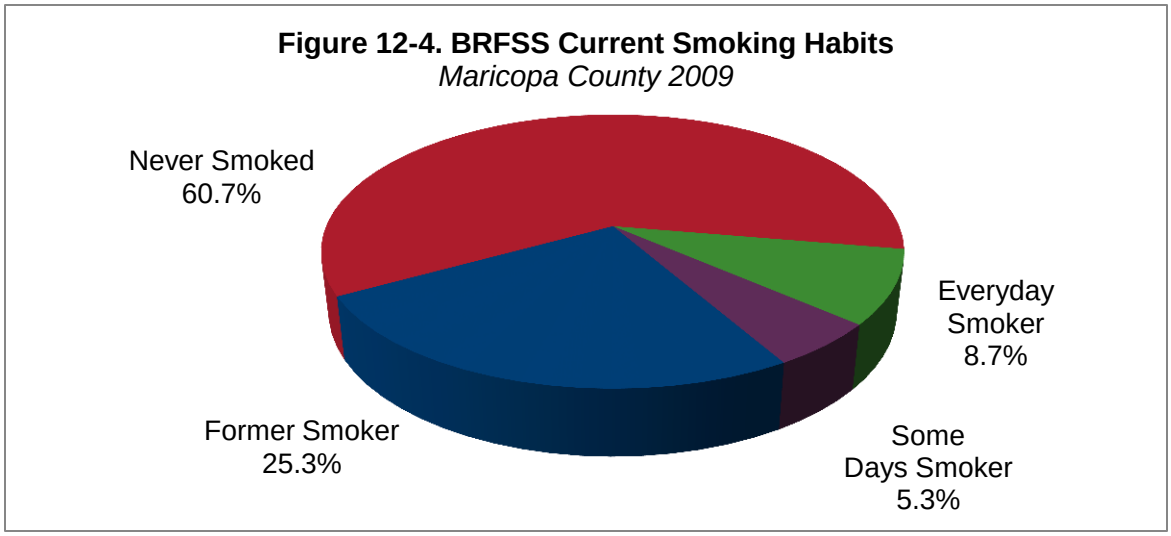
Group	Percent
Total	16.1
Sex	
Male	15.7
Female	16.5
Age group	
18-34	19.2
35-44	16.7
45-54	17.6
55-64	17.3
65+	9.5
Race	
White, non-Hispanic	17.4
Hispanic	9.9

Have you ever been told by a doctor, nurse, or other health professional that you had asthma?

Smoking Still Common

Almost one in 8 Maricopa County residents claimed to be everyday or some

Figure 12-4. BRFSS Current Smoking Habits
Maricopa County 2009



day smokers. Figure 12-4 shows that 60.7% of Maricopa County residents have never smoked while another 25.3% smoked at one time but have quit smoking. Smoking continues to pose health risks, for example, according to a report from the CDC, 80% of deaths from chronic obstructive pulmonary disease (COPD) are due to smoking. (7) Former smokers were more likely to be male, and more White residents considered themselves former smokers than Hispanic residents. Table 2.2 shows more data on former smokers.

According to the BRFSS, 14.0% of Maricopa County residents currently smoke. This is less than the national percentage of 17.9%. A higher percentage of 45-54 year olds (23.2%) considered themselves current smokers than any other age groups as shown in Table 12.3.

Table 12-2 Former Smokers
Maricopa County 2009 BRFSS

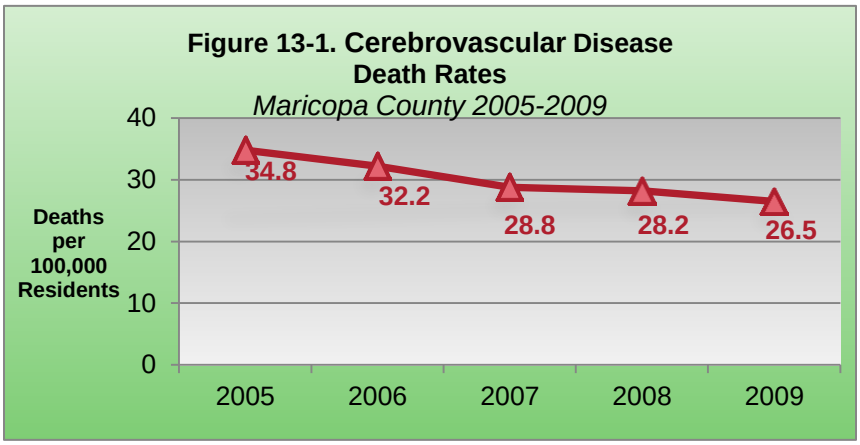
Group	Percent
Total	25.3
Sex	
Male	30.0
Female	20.6
Age group	
18-34	21.4
35-44	16.0
45-54	23.1
55-64	30.3
65+	44.0
Race	
White, non-Hispanic	30.0
Hispanic	17.5

Smoked 100 or more cigarettes in their life but do not currently smoke.

Table 12-3 Current Smokers
Maricopa County 2009 BRFSS

Group	Percent
Total	14.0
Sex	
Male	15.8
Female	12.2
Age group	
18-34	12.2
35-44	14.0
45-54	23.2
55-64	14.8
65+	7.4
Race	
White, non-Hispanic	13.4
Hispanic	13.2

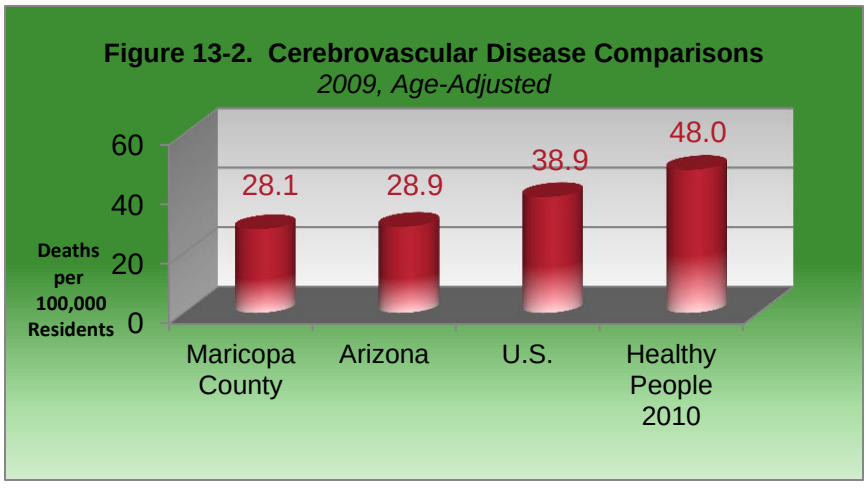
Current smokers who smoke every day and current smokers who smoke some days



Cerebrovascular Disease (Stroke)

Key Finding

- Cerebrovascular disease was the 6th leading cause of death in Maricopa County in 2009.
- The cerebrovascular death rate decreased between 2005 and 2009.
- The cerebrovascular disease death rate in Maricopa County was lower than the U.S. rate and met the Healthy People 2010 goal.
- Black residents had the highest age-adjusted death rate for cerebrovascular disease while American Indian residents had the lowest.
- Females had a higher death rate than males for cerebrovascular disease in 2009.
- 2.1% of adult Maricopa County residents have been told they have had a stroke.



Stroke #6 Cause of Death

In 2009, 1,068 Maricopa County residents died of cerebrovascular disease (stroke), making it the 6th leading cause of death.

The death rate from cerebrovascular disease has decreased each year since 2005. In 2005, the rate was 34.8 deaths per 100,000 residents compared to 26.5 deaths per 100,000 residents in 2009, as shown in Figure 13-1. Adjusted for age, there were 28.1 deaths per 100,000 residents in Maricopa County in 2009. This was below Arizona and the U.S. rates and met the Healthy People 2010 Goal. See Figure 13-2.

Black Residents and Females More at Risk for Stroke Deaths

In Maricopa County during 2009, Black residents were the race/ethnic group most at risk for death from cerebrovascular disease. As shown in Figure 13-3, the rate for Black Maricopa County residents was the highest (age-adjusted 55.8 deaths per 100,000 Black residents). This was higher than the rates for Asian (36.1), Hispanic (29.2) and White (26.9) residents. The rate for American Indian residents was the lowest (24.7).

Figure 13-4. Cerebrovascular Disease Death Rates by Sex
Maricopa County 2009

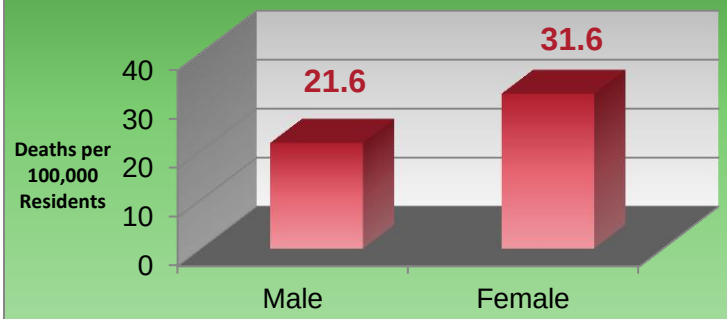
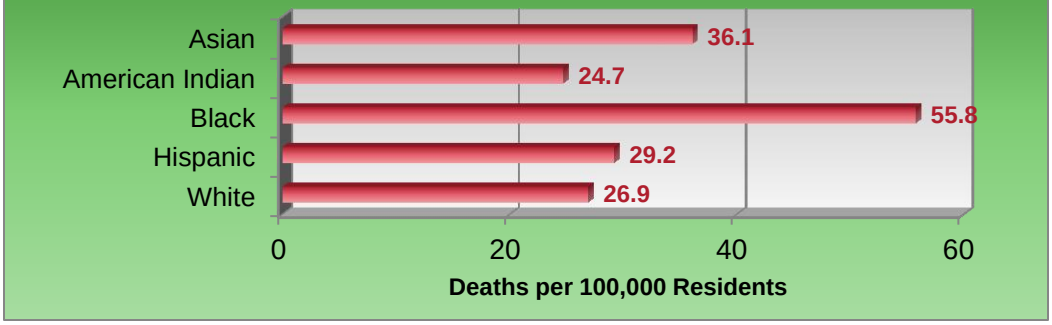


Figure 13-3. Cerebrovascular Death Rates by Race/Ethnicity
Maricopa County 2009, Age-Adjusted



Females had a higher cerebrovascular disease death rate than males in 2009. As shown in Figure 13-4, the death rate for females was 31.6 deaths per 100,000 females compared to 21.6 deaths per 100,000 males.

History of Stroke Low in Maricopa

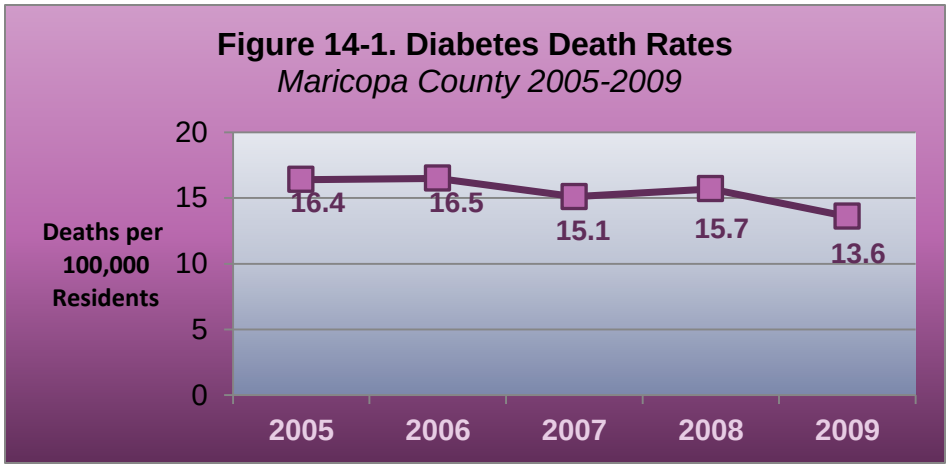
Although cerebrovascular disease is the 6th leading cause of death, only 2.1% of Maricopa County residents reported ever being told they had had a stroke according to the BRFSS. The percentage that had ever been told they had had a stroke increased with age. Of residents 65 and older, 8.2% have had a stroke compared to less than 2% of residents 45-54 years old.

More White residents had been told they had a stroke (2.4%) than Hispanic residents 0.9%.

Table 13-1 Cerebrovascular Disease
Maricopa County 2009 BRFSS

Group	Percent
Total	2.1
Sex	
Male	2.1
Female	2
Age group	
18-34	NA
35-44	0.1
45-54	1.9
55-64	3.3
65+	8.2
Race	
White, non-Hispanic	2.4
Hispanic	0.9

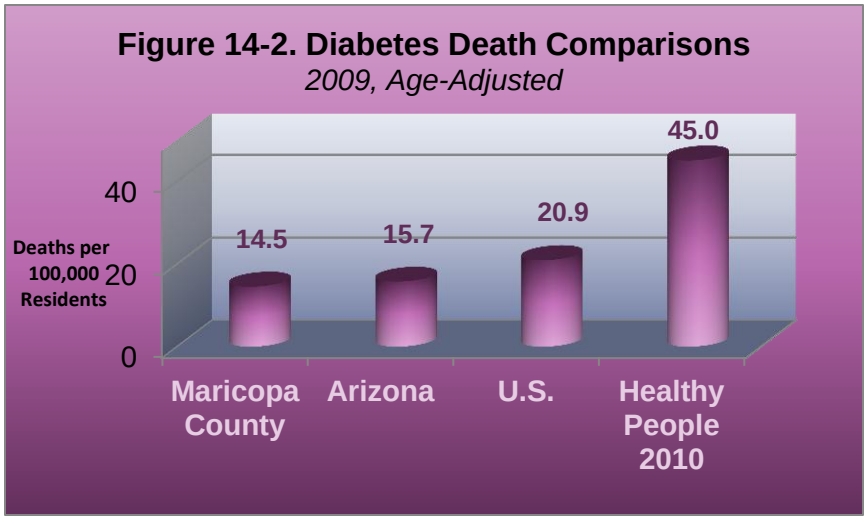
Has a doctor, nurse, or other Health Professional ever told you that you had a stroke?



Diabetes

Key Finding

- Diabetes was the 7th leading cause of death in Maricopa County during 2009.
- The diabetes death rate in Maricopa County was lower than the Arizona and U.S. rates and met the Healthy People 2010 Goal.
- The diabetes death rate decreased between 2005 and 2009.
- American Indian residents had the highest age-adjusted death rate from diabetes while White residents had the lowest.
- Nearly 1 in 12 Maricopa County residents are living with diabetes (7.8%).
- Nearly 1 in 4 Maricopa County residents are considered obese, a major risk factor for Type II Diabetes.
- Only 1 in 4 Maricopa County residents are eating the recommended servings of fruit and vegetables.



Diabetes #7 Cause of Death but Additional Deaths are Associated with Diabetes

In 2009, there were 548 diabetes deaths in Maricopa County residents, making it the 7th leading cause of death. These 548 deaths were deaths where diabetes was the underlying cause of death. Due to the many complications that individuals living with diabetes may experience, there are many more deaths that occur each

year where diabetes was a contributing cause, but not the underlying cause. In 2009, there were an additional 784 deaths where diabetes was listed as a contributing cause of death.

The death rate for diabetes deaths decreased between 2005 and 2009. In 2005, the rate was 16.4 deaths per 100,000 residents compared to 13.6 deaths in 2009, as shown in Figure 14-1. Adjusted for age, there were 14.5 deaths per 100,000 residents in Maricopa County in 2009. This was below the rates for Arizona and the U.S., as shown in Figure 14-2. The age-adjusted death rate for Maricopa County in 2009 was below the Healthy People 2010 goal of 45.0 deaths per 100,000 residents.

Differences Between Race/Ethnic Groups

In 2009, American Indian residents were at higher risk for death from diabetes than were people from other race and ethnic groups. The age-adjusted rate for American Indians (78.6) was more than six times the rate for White (12.0) residents. Black (38.5) and Hispanic (27.2) residents were triple and double the rates for White residents, respectively. See Figure 14-3.

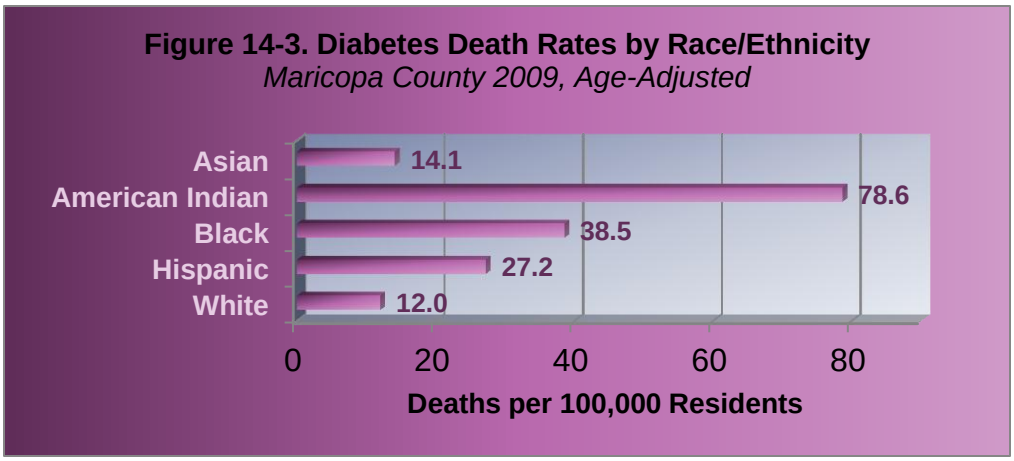
Many Living with Diabetes

The actual number of people living with diabetes in Maricopa County is not known, but data collected from the BRFSS asking if a doctor had ever told them they have diabetes found 7.8% responding 'Yes' in 2009. Table 14-1 shows that individuals in older age groups were more likely to respond that they have been told they have diabetes than did individuals in younger age groups.

Table 14-1 Diabetes
Maricopa County 2009 BRFSS

Group	Percent
Total	7.8
Sex	
Male	7.4
Female	8
Age group	
18-34	1.3
35-44	3.4
45-54	12
55-64	13.3
65+	17.4
Race	
White, non-Hispanic	7.6
Hispanic	5.8

Have you ever been told by a doctor that you have diabetes?



There are also a number of people who have diabetes, but have not been diagnosed with the disease. An estimate from the CDC and the American Diabetes Association suggests that for every 2.5

diagnosed diabetic, there is one undiagnosed diabetic. BRFSS data estimates that another 7.0% of Maricopa County residents are considered to have prediabetes a condition in which an individual has higher than normal blood glucose levels, but this level is not high enough for a diagnosis of diabetes.

Prevention is Key

Estimates from the CDC and the American Diabetes Association suggest that as many as 1/3 of the U.S. population will be diabetic by 2050. (8) To prevent this from happening, there are several steps individuals can take to lower their own risk for diabetes.

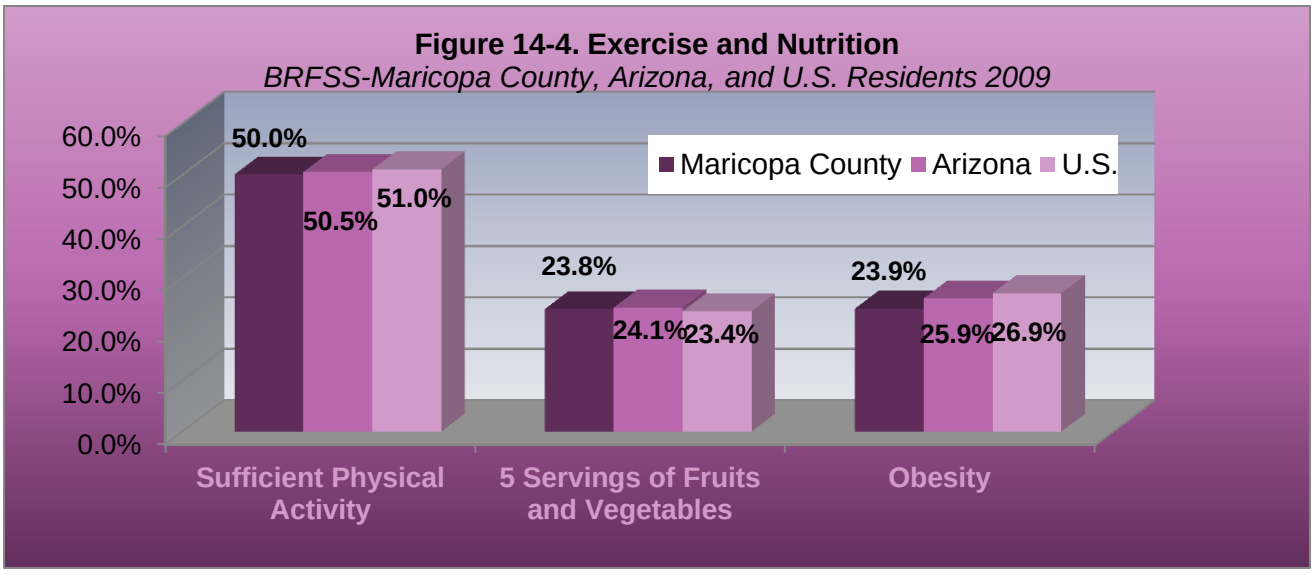
There are two types of diabetes-Type 1 and Type 2. Type 1 diabetes, about 5% of all diabetes cases, results from the body's failure to produce insulin. Risk factors for Type 1 diabetes include "autoimmune, genetic, and environmental factors" according to the CDC. (8) Currently, there are no known ways to prevent Type 1 diabetes. Type 2 diabetes accounts for 95% of all diabetes cases, and results from insulin resistance and insulin deficiency. Risk factors for Type 2 diabetes include older age, obesity, family history of diabetes, physical inactivity, race/ethnicity, and other factors.

Studies show that exercise and diet can help prevent Type 2 diabetes. In Maricopa County, half the residents reported receiving sufficient physical activity. Only 23.8% of residents reported eating 5 servings of fruit and vegetable each day. Figure 14-4 shows the percent of Maricopa County, Arizona, and U.S residents that reported obesity, sufficient physical activity, and eating enough fruits and vegetables.

Obesity on the Rise

As stated, obesity is a risk factor for Type 2 diabetes. As the rate of obesity has increased in the U.S., the rate of diabetes has also increased. It should be noted that not all obese individuals will develop diabetes or that all diabetics are obese, however obesity can serve as an indicator of potential diabetes disease.

Figure 14-4. Exercise and Nutrition
BRFSS-Maricopa County, Arizona, and U.S. Residents 2009



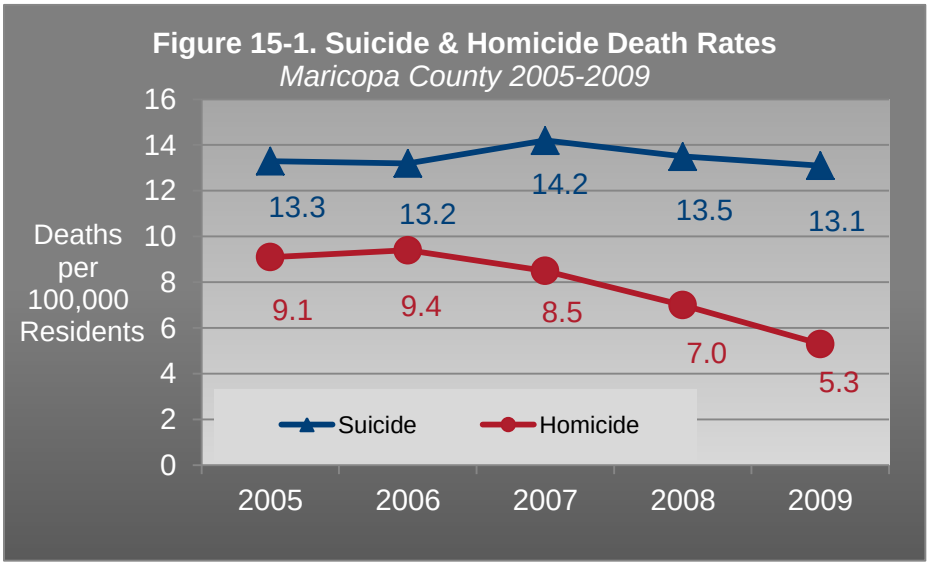
Although half of Maricopa County residents report sufficient physical activity, the percent of residents considered obese is still high. In 2009, 23.9% of Maricopa County residents were considered obese. This is based on the height and weight each resident supplied to the BRFSS. Their BMI was then calculated to determine if they are underweight, normal weight, overweight, or obese. The young (under 35) and the older (over 65) age groups had the lowest percentage of obese individuals. See Table 14-2 for more BRFSS data. Among Hispanics, there is a somewhat higher percent of obese (and as mentioned earlier diabetic) individuals than there are among White residents.

Table 14-2 Obesity
Maricopa County 2009 BRFSS

Group	Percent
Total	23.9
Sex	
Male	23.7
Female	24.1
Age group	
18-34	20.5
35-44	27.3
45-54	29.6
55-64	25.2
65+	19.4
Race	
White, non-Hispanic	22.1
Hispanic	28.2

About how much do you weigh without shoes? About how tall are you without shoes?

Suicide & Homicide



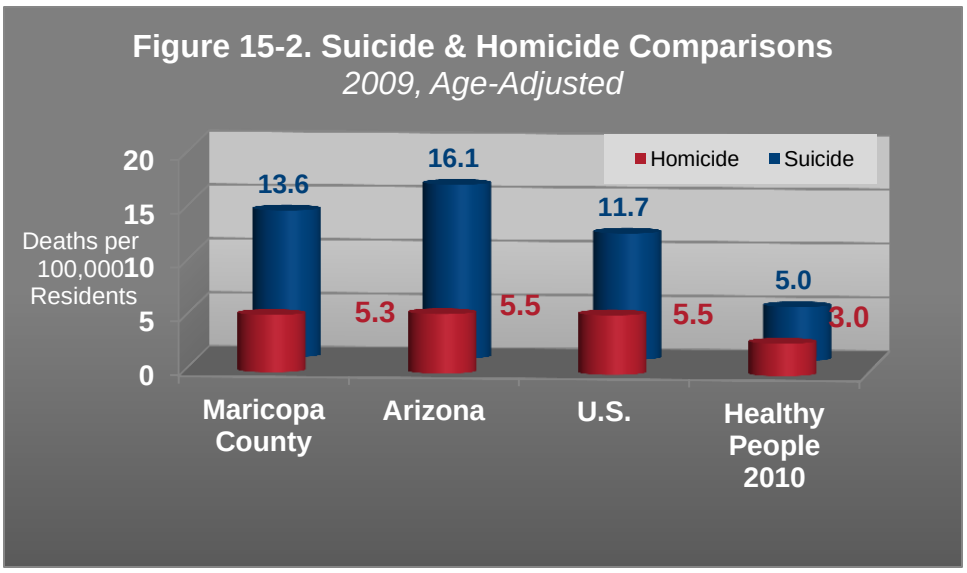
Key Finding

- Suicide was the 8th leading cause of death in Maricopa County in 2009.

- In 2009, the death rate for suicide in Maricopa County was higher than the U.S. rate while the death rate for homicide was lower than the U.S. rate. Neither met the Healthy People 2010 Goal, despite a decrease in homicide over the past 5 years.

- Suicide was more common in White residents compared to other race/ethnicities, more common in males compared to females; and more common in decedents in their late 30s to mid-60s.

- Homicide was more common in Black and American Indian residents compared to other race/ethnicities; more common in males compared to females, and more common in decedents in their late teens to early 20s.



Suicide 8th Leading Cause of Death

In 2009, there were 529 deaths due to suicide in Maricopa County, making it the 8th leading cause of death – an

average of 10 suicides every week. There were also 212 deaths due to homicide in 2009 – on average 4 homicides per week. Although homicide was not one of the top ten causes of death, it is included in this report with suicide because both are considered violent deaths and both affect age, race/ethnic, and gender groups disproportionately. As shown in Figure 15-1, the death rate for suicide has remained constant with a rate of 13.3 deaths per 100,000 in 2005 and 13.1 deaths per 100,000 in 2009. The death rate due to homicide has significantly decreased (see Technical Notes for statistical test), from 9.1 deaths per 100,000 in 2005 to 5.3 deaths per 100,000 residents in 2009.

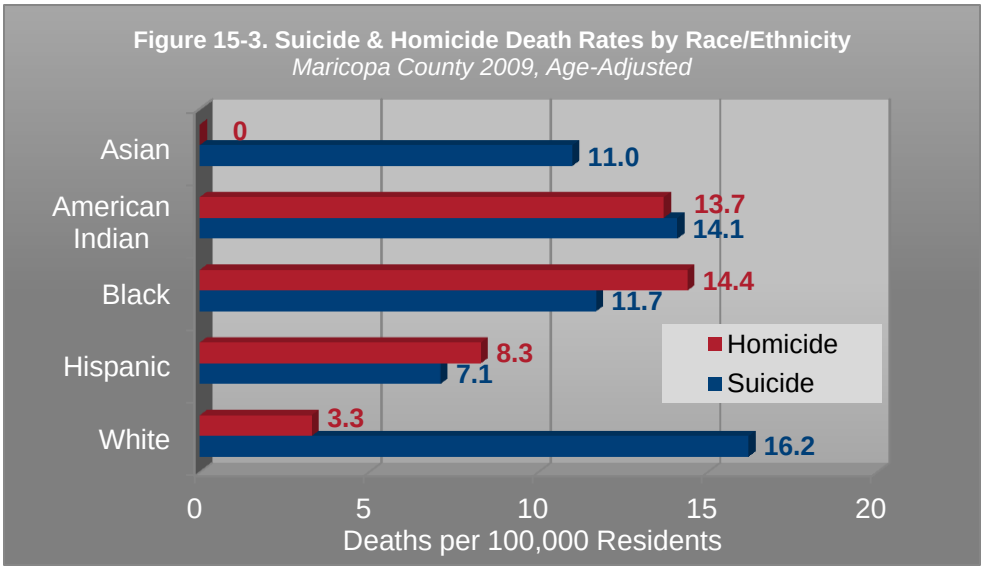
Adjusted for age, the death rate for suicide was 13.6 deaths per 100,000 in 2009. This was lower than the Arizona suicide death rate, but a higher death rate than the U.S. See Figure 15-2. The age-adjusted death rate for homicide was 5.3 deaths per 100,000 residents. This was lower than the death rate for Arizona and the U.S. Both the suicide and homicide rates did not meet the Healthy People 2010 Goal of 5.0 and 3.0 deaths per 100,000 respectively.

Suicide Highest with White Residents, Homicide Highest with Black Residents

In 2009, White Maricopa County residents had the highest age-adjusted death rate for suicide while Black Maricopa County residents had the highest age-adjusted death rate for homicide.

As shown in Figure 15-3, the suicide death rate for White residents was 16.2 deaths per 100,000 White residents. This was followed by American Indian (14.1), Black (11.7), Asian (11.0) and Hispanic (7.1) residents. The homicide death rate among Black residents was 14.4 deaths per 100,000 Black residents. This was followed by American Indian (13.7), Hispanic (8.3), and Whites (3.3) residents. There were no homicide deaths among Asian residents in 2009.

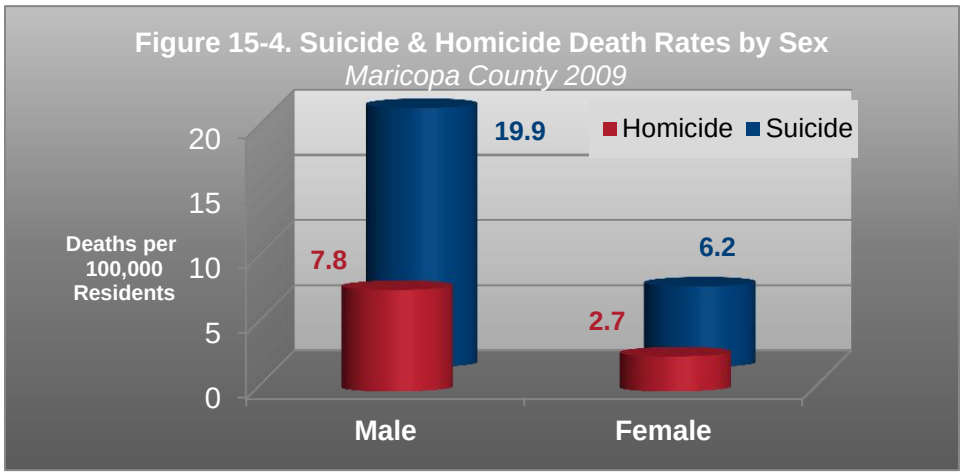
The homicide death rate among Hispanic residents has decreased the last few years. In 2005, homicide was the 4th leading cause of death for Hispanic residents with 200 deaths and an age-adjusted death rate of 19.3 deaths per 100,000. In 2009, the number of homicide deaths had decreased to 99 for an age-adjusted rate of 8.3 deaths per 100,000 Hispanic



residents.

Males More Likely to Die From Suicide and Homicide

The suicide death rate among males was three times the death rate among females in 2009. Males had a crude death rate of 19.9 deaths per 100,000 males compared to 6.2 deaths per 100,000 females.



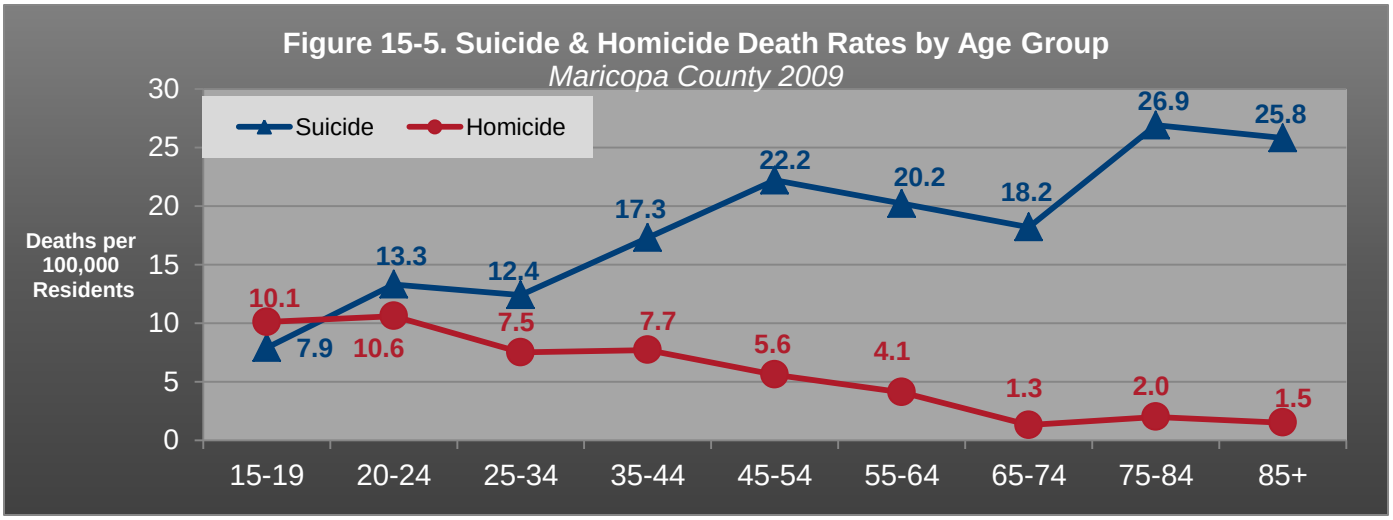
The death rate for homicide in males was nearly three times the death rate in females in 2009. Males had a death rate of 7.8 deaths per 100,000 males compared to 2.7 in females. Figure 14-4 shows the death rates for suicide and homicide by sex.

Suicide More Common in Older Adults, Homicide in Younger Adults

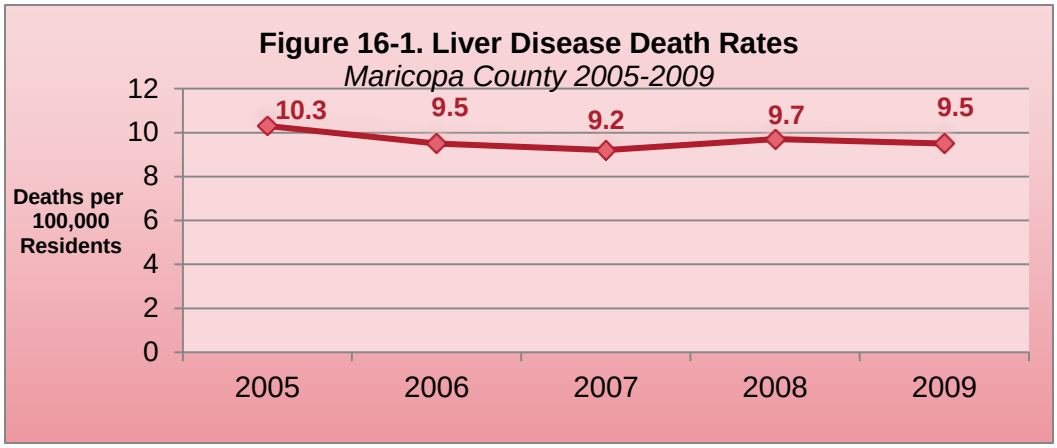
The death rate for suicide increased with age, with individuals 75-84 having the highest suicide death rate at 26.9 deaths per 100,000 in 2009. Suicide is uncommon in adolescent teens, but is more common in individuals aged 55 and older.

The death rate for homicide is higher in young adults between the ages of 15 to 24. The highest homicide death rate in 2009 occurred in decedents 20-24 years of age.

Figure 15-5 shows the death rate for suicide and homicide for decedents aged 15 and older.



Liver Disease

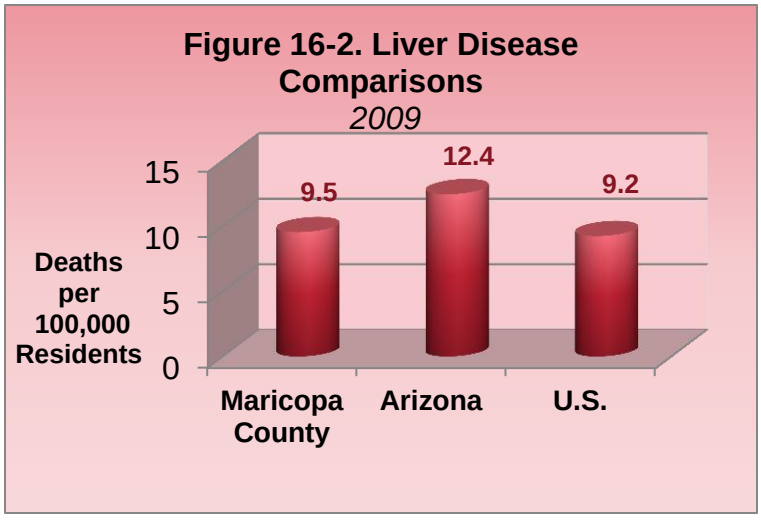


Key Finding

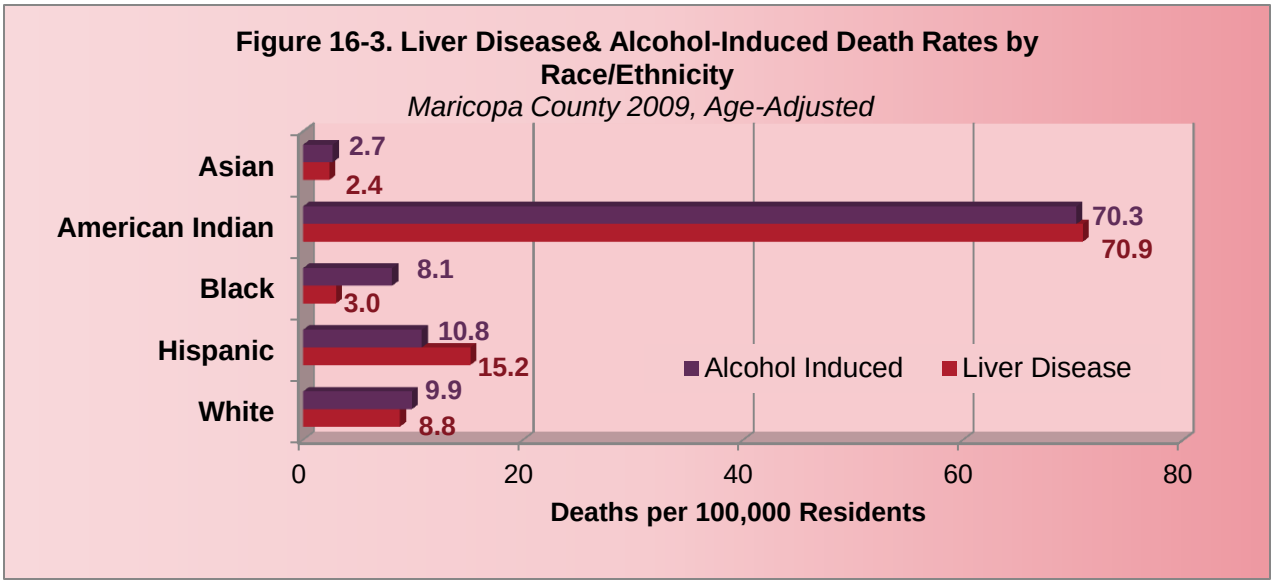
- Liver disease was the 10th leading cause of death in Maricopa County in 2009.
- The liver disease death rate in Maricopa County was higher than the U.S. rate.
- American Indian residents had the highest death rate from liver disease while Asian residents had the lowest.
- Males had a higher death rate for liver disease than females.
- About 1 in 7 residents and nearly 1 in 4 males reported binge drinking in the last 30 days.

Liver Disease Rounds Out Top 10

In 2009, there were 383 deaths due to liver disease in Maricopa County. This made liver disease the 10th leading cause of death in 2009. Deaths due to liver disease include deaths due to chronic hepatitis, cirrhosis and alcoholic liver disease. These deaths may be attributed to alcohol usage as well as to genetic factors. Between 2005 and 2009, the death rate has decreased slightly, as seen in Figure 16-1, from 10.3 deaths per 100,000 to 9.5 deaths per 100,000 residents.



As seen in Figure 16-2, the rate of liver disease deaths in Maricopa County was lower than the rate for Arizona (12.4 deaths per 100,000) but higher than the U.S. rate (9.2 deaths per 100,000) in 2009.

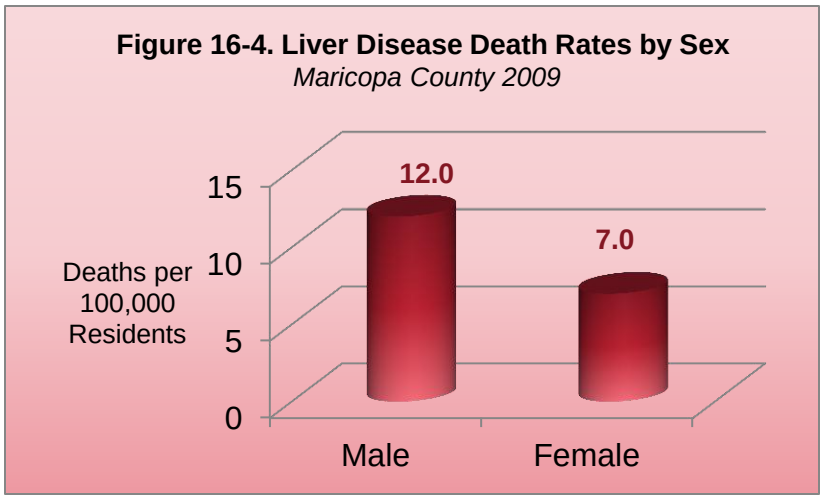


American Indian, Male Residents Hardest Hit by Liver Disease

In 2009, American Indian residents had the highest death rate for liver disease with an age-adjusted rate of 70.9 deaths per 100,000 American Indian residents. This rate was nearly 5 times the rate for Hispanic residents who had the second highest rate at 15.2 deaths per 100,000 Hispanic residents. As shown in Figure 16-3, Asian residents had the lowest age-adjusted death rate at 2.4 deaths per 100,000 Asian residents.

The age-adjusted death rates for liver disease are similar to the age-adjusted death rates for alcohol-induced deaths for White, American Indian, and Asian residents. The age-adjusted death rates for alcohol-induced deaths for Hispanic residents was lower than the death rate for liver disease while the death rate for alcohol-induced deaths in Black residents was higher than the death rate for liver disease.

Males had a higher death rate due to liver disease compared to females. As seen in Figure 16-4, males had a higher death rate of 12.0 deaths per 100,000 males compared to a death rate of 7.0 deaths per 100,000 females.

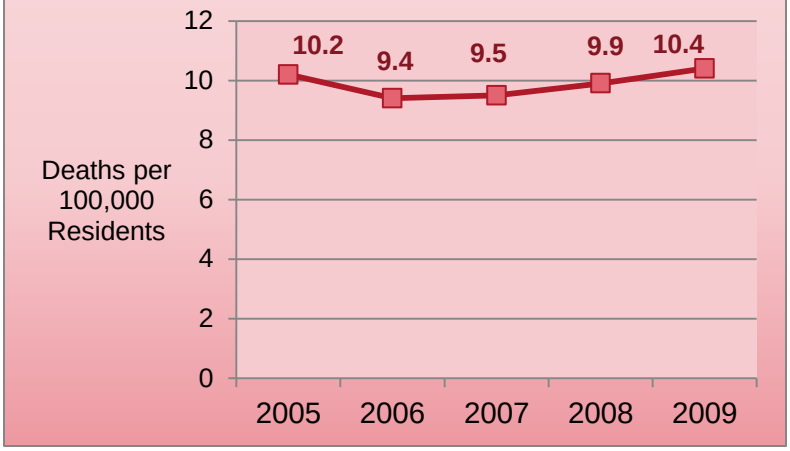


Alcohol Induced Deaths Increasing

The age-adjusted death rate for alcohol-induced deaths increased between 2005 and 2009. In 2005, the death rate was 10.2 deaths per 100,000 residents. This rate dropped to 9.4 deaths in 2006 and gradually increased each year until it reached a

5-year high of 10.4 deaths per 100,000 residents in 2009 as seen in Figure 16-5.

Figure 16-5. Alcohol-Related Death Rates
Maricopa County 2005-2009, Age Adjusted



Binge Drinking Common

15.6% of respondents reported binge drinking in the past 30 days. Binge drinking is defined in the BRFSS as consuming 5 or more alcoholic beverages on one occasion. As seen in Table 16.1, binge drinking is reported more often in Males than in Females, with 1 out of 7 males reported binge drinking compared to 1 out of 11 females. Binge drinking is also more common in young adults under 35 years of age and is less common among older age groups.

Table 16-1 Binge drinking
Maricopa County 2009 BRFSS

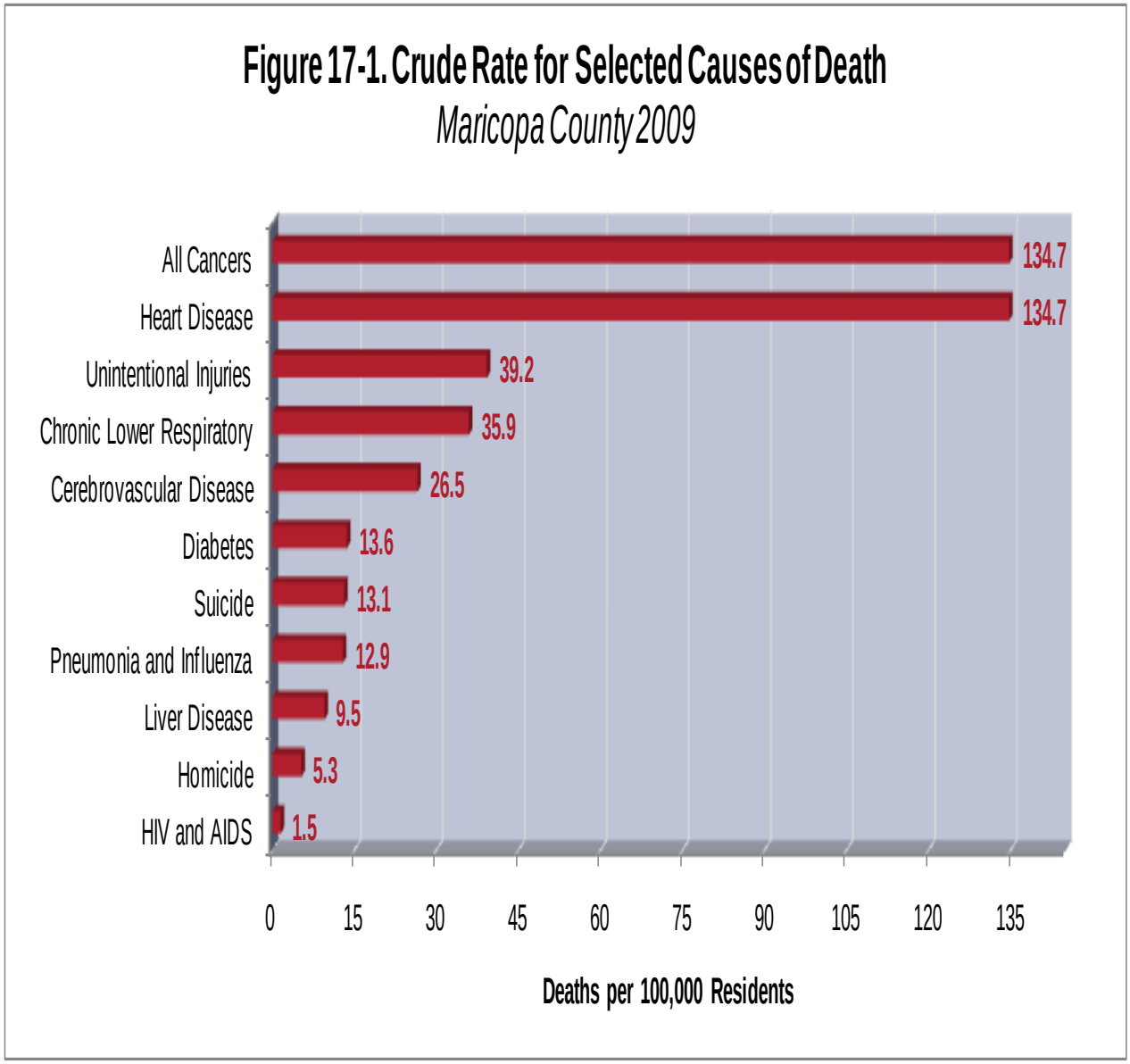
Group	Percent
Total	15.6
Sex	
Male	22.2
Female	9
Age group	
18-34	25.5
35-44	18.6
45-54	12.1
55-64	7.7
65+	2.1
Race	
White, non-Hispanic	15.4
Hispanic	19.0

Considering all types of alcoholic beverages, how many times during the past 30 days did you have 5 or more drinks on one occasion?

Years of Potential Life Lost

Figure 17-1 below is a summary of crude death (mortality) rates for selected causes of death. It displays the cause of death in order from the highest rate to the lowest rate in Maricopa County during 2009. The causes of deaths selected are the Top Ten causes of death in 2009 except for Alzheimer's disease. Instead, the death rate for HIV and AIDS is reported.

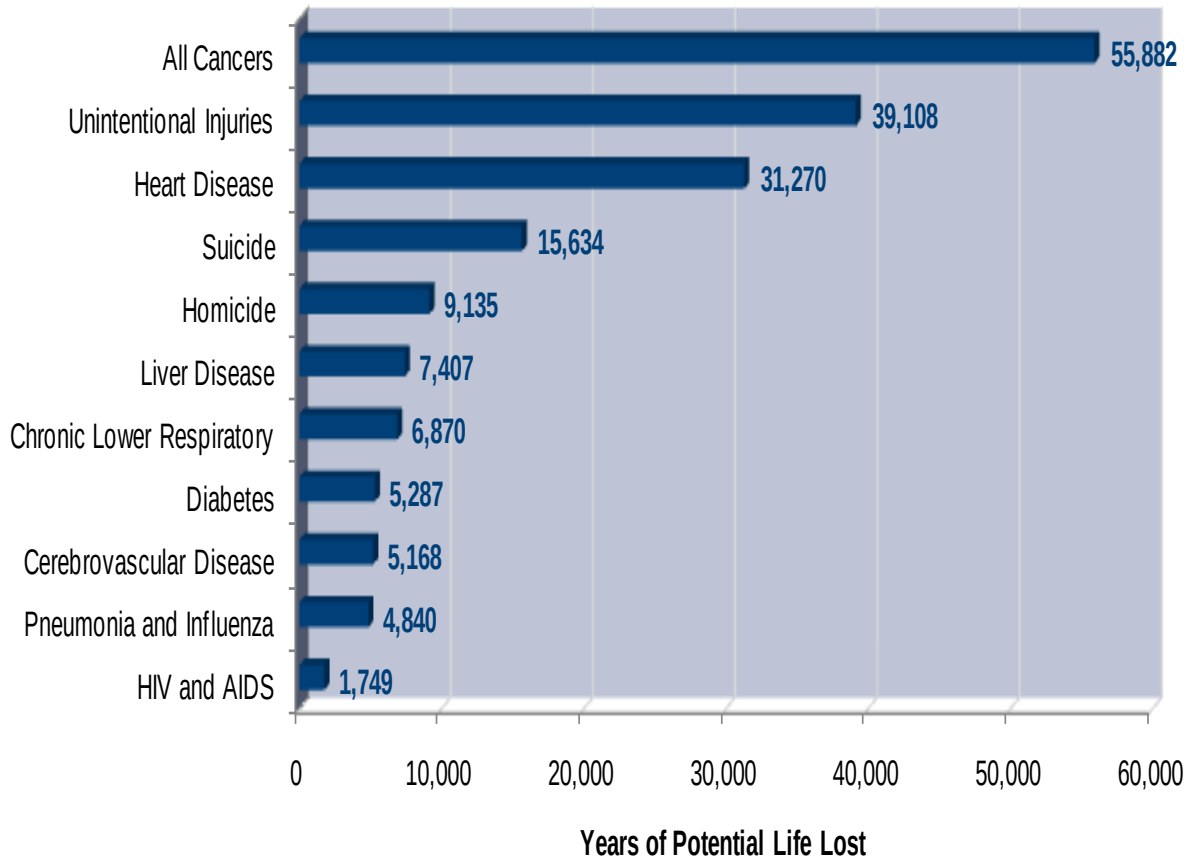
Another way to look at causes of death is to estimate how many additional years people might have lived had they not died from a given cause of death. Figure 17-2 shows



each cause of death according to how many potential years of life were lost to that cause of death. This figure shows cancers as the cause of death that takes the most years of potential life from Maricopa County residents, almost 56,000 years. The second highest is unintentional injuries with over 39,000 years of potential life lost. The total number of years lost was 252,037 years in 2009.

Importantly, this analysis shows that diseases with relatively low crude death rates, such as suicide and homicide, may account for many years of potential life lost because they tend to strike people who are younger and who may otherwise have lived many additional years.

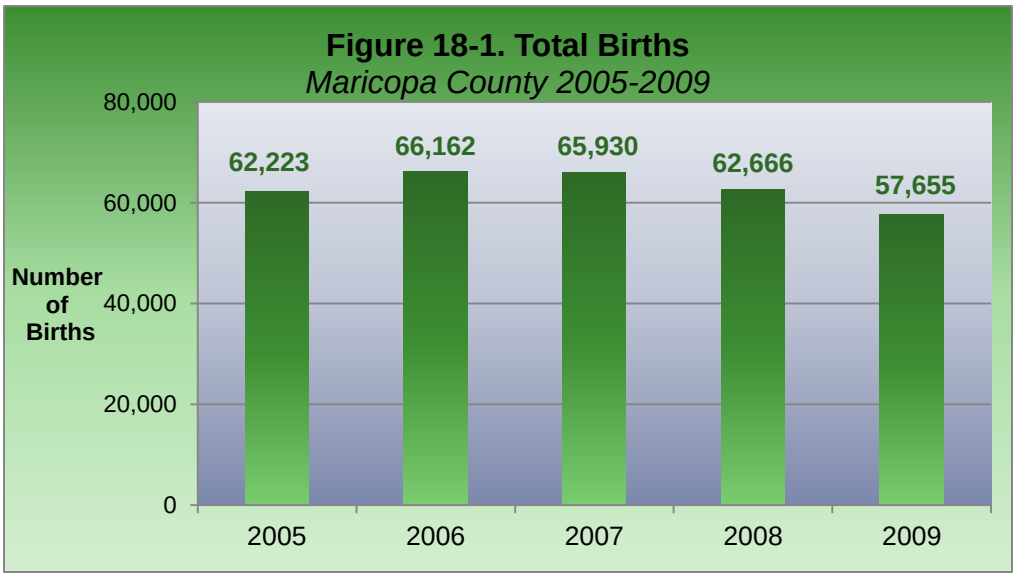
Figure 17-2. Years of Potential Life Lost by Causes of Death
Maricopa County 2009



Note: Includes only deaths among males and females who died at or younger than US life expectancy in 2009 (Female=80.6, Male=75.7)

Maternal & Child Health

Births

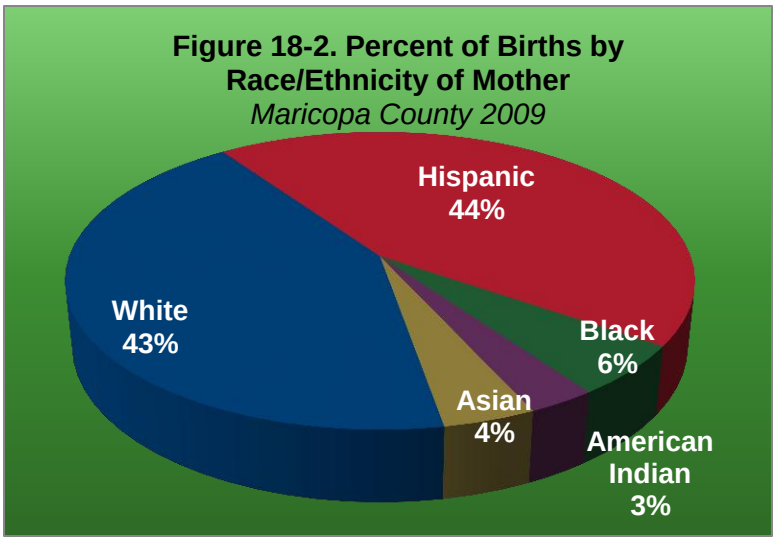


Key Finding

- In 2009, there were 57,655 births to Maricopa County resident mothers.
- Hispanic mothers had the most births followed by White mothers.
- Over 50% of mothers were between 25 and 34 years old.
- In 2009, 89.5% of births occurred at 37 weeks or more. This percentage did not meet the Healthy People 2010 Goal.

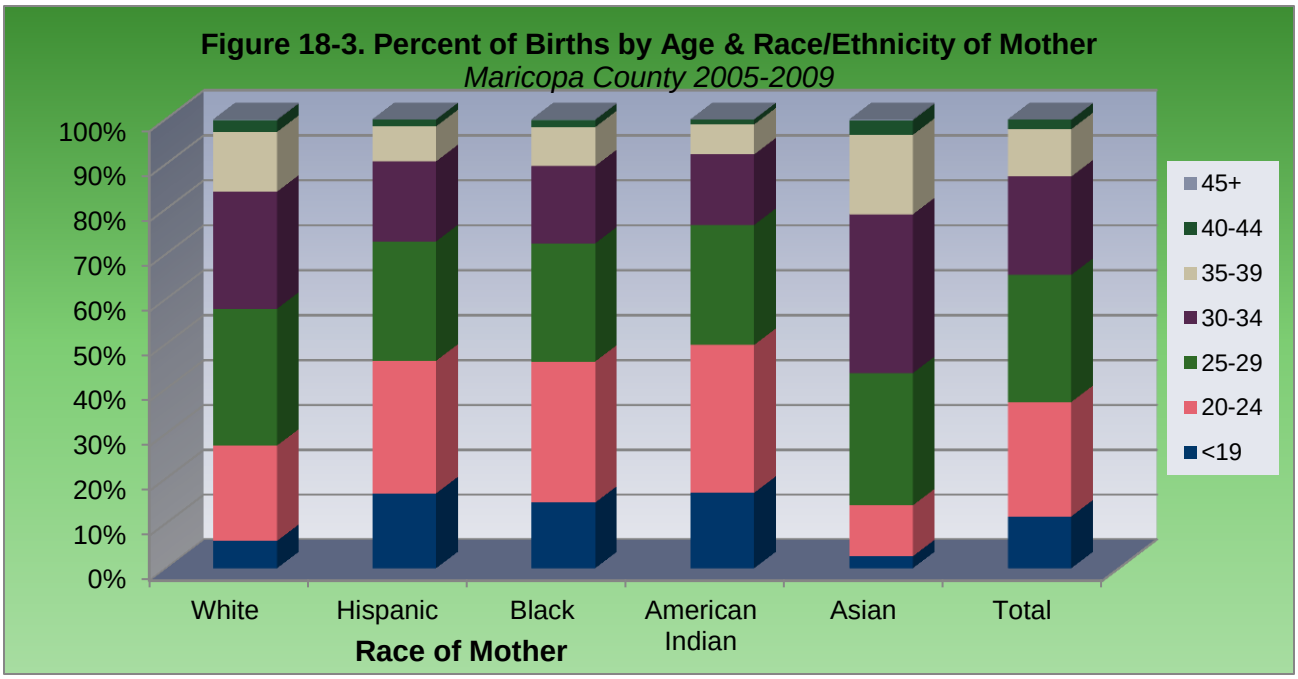
Total Births Continue to Decrease

In 2009, there were 57,655 births to Maricopa County resident mothers. This was the third consecutive year that had a decrease in births after many years of increase. 2009 had 5,000 fewer births than 2008 and nearly 10,000 fewer births than 2006, which had the highest number of births in the last five years, as seen in Figure 18-1. The total number of births in 2009 was similar to the total number of births in 2002 (not shown).



More Babies Born to Hispanic Mothers

In 2009, there were 25,449 babies born to Hispanic mothers. This accounted for 44% of all births as shown in Figure 18-2. White mothers had the second most babies with 24,721 babies. Black mothers had the third most babies (3,203 babies), followed by Asians (2,349 babies) and American Indians (1,731 babies).



The percent of births to Hispanic mothers decreased during the five-year period. In 2007, nearly 48% of all births were to Hispanic mothers, compared to 44% in 2009.

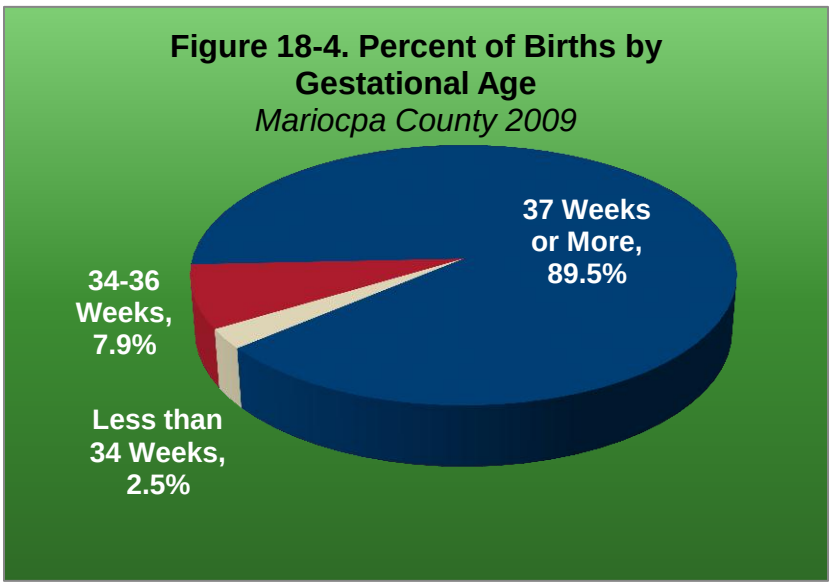
Mothers Age Unchanged

Over 50% of mothers who delivered in 2009 were between the age of 25 and 34 years old. The average age of mothers in Maricopa County was 27.8 years. This was slightly older than the average age in 2005, which was 27.4 years old.

Figure 18-3 shows that between 2005 and 2006, 50% of Hispanic, Black, and American Indian mothers were under the age of 25 compared to 27% of White and 14% of Asian mothers.

Full Term Births Increasing

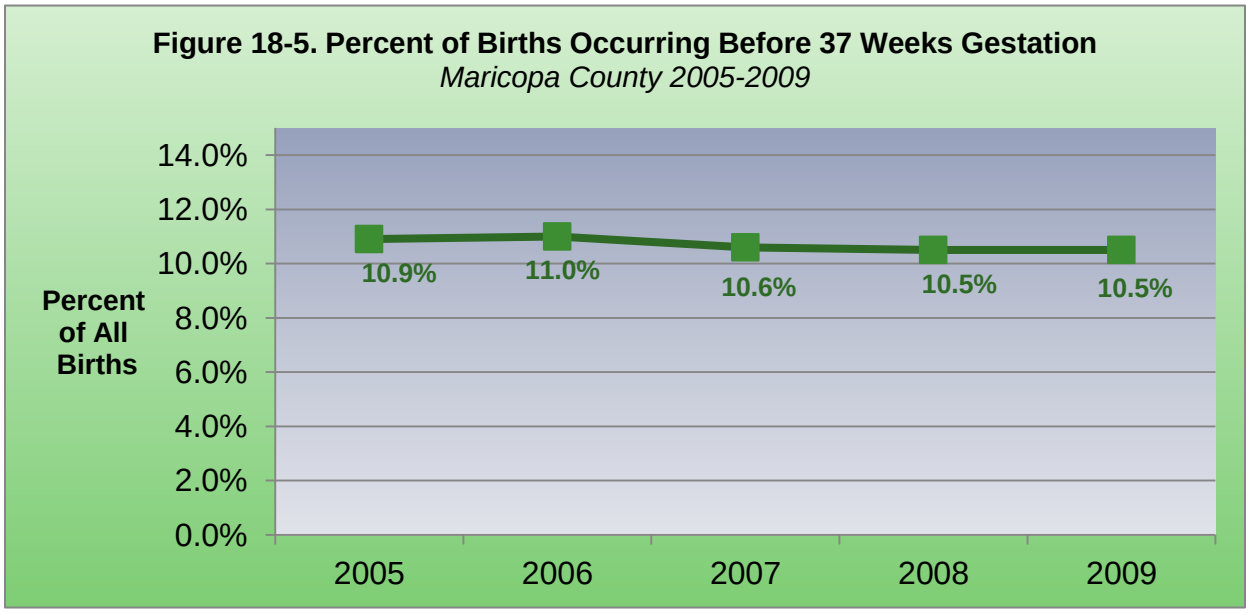
In 2009, 89.5% of all births occurred after 37 weeks gestation. As shown in Figure 18-4, an additional 7.9% of births occurred at 34-36 weeks gestation. A gestation of 34-36 weeks is considered a late preterm birth. An infant born at 34-36 weeks is not only smaller than a full term infant, but is at an increased risk for

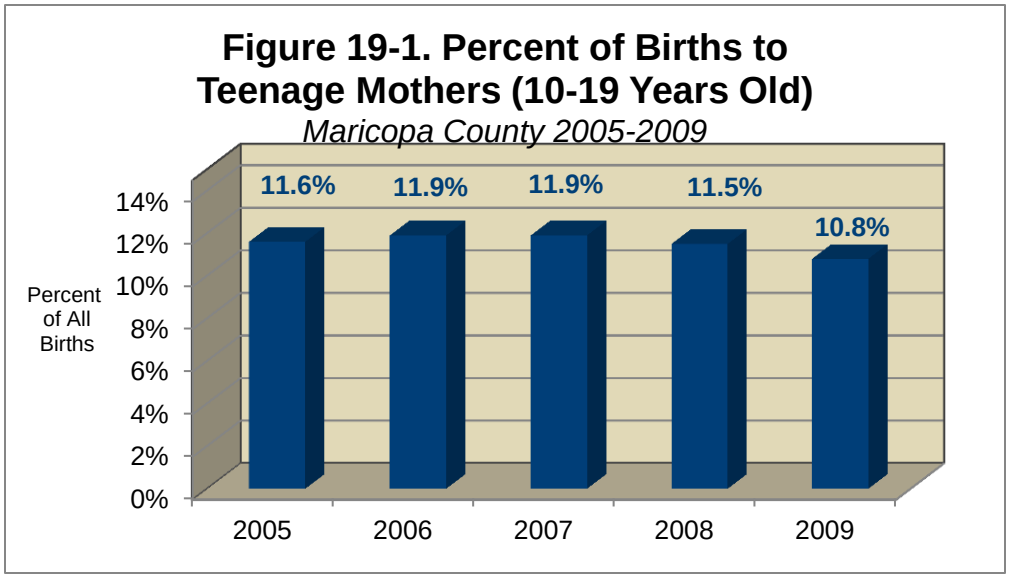


health issues, including cerebral palsy and learning and behavioral problems. Early preterm births occur when gestation is less than 34 weeks. Infants born at less than 34 weeks gestation have similar increased risks as late preterm births; however these risks may be more severe and last longer. For example, infants born at less than 28 weeks have a 20% risk of death. In 2009, the percent of births considered early preterm was 2.5%.

The percent of preterm births (both early and late) has decreased slightly. As shown in Figure 18-5, the number of preterm births has decreased from a high in 2006 of 11.0% to a low in 2009 of 10.5%. See Figure 18-5. The Healthy People 2010 Goal for preterm births was 7.6%. Broken down by late preterm and early preterm (less than 34 weeks), the Healthy People 2010 Goal was 6.4% and 1.1% respectively.

Figure 18-5. Percent of Births Occurring Before 37 Weeks Gestation
Maricopa County 2005-2009

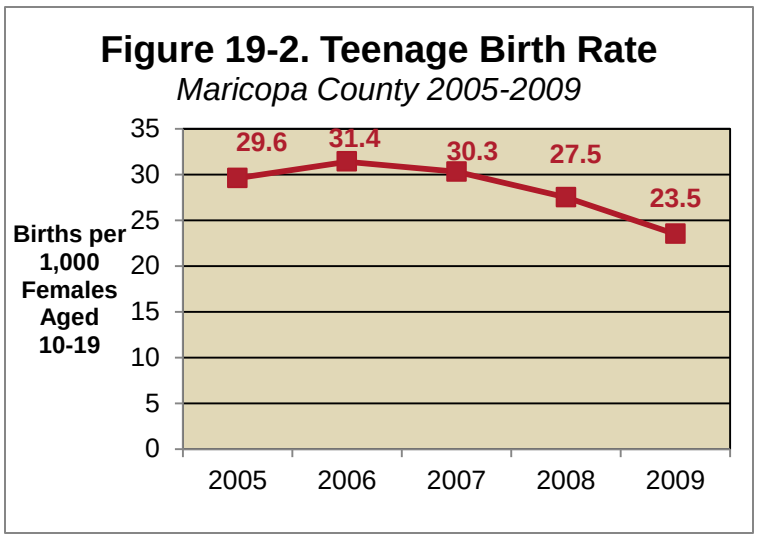




Births to Teen Mothers

Key Finding

- The percent of births to teenage mothers (10-19 years old) decreased between 2005 and 2009.
- The teenage birth rate for Maricopa County was lower than the birth rate in Arizona, but higher than the U.S. in 2009.
- Hispanic, American Indian, and Black teenagers had a higher birth rate compared to White and Asian teenagers.
- The teenage birth rate for every race/ethnicity decreased between 2005 and 2009.

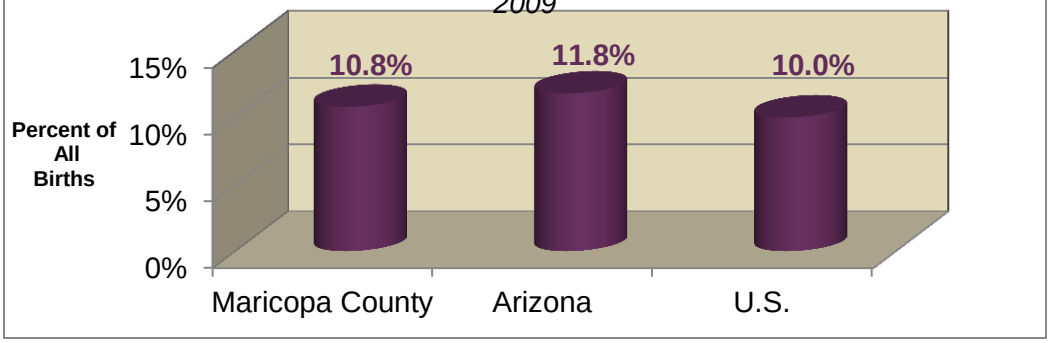


Teenage Pregnancies Decreasing

In 2009, there were 6,246 births to mothers under the age of 20. This was 10.8% of all births in 2009. Between the years 2005 and 2009, the percentage of births to teenage mothers was the lowest in 2009, as shown in Figure 19-1.

The teenage birth rate (the total number of births per 1,000 females 10-19 years old) has decreased in the last three years. Figure 19-2 shows that the teen birth rate had a high of 31.4 births per 1,000 female teenagers in 2006 and a low of 23.5 births per 1,000 female teenagers in 2009.

Figure 19-3. Percent of Births to Teenage Mothers Comparison
2009

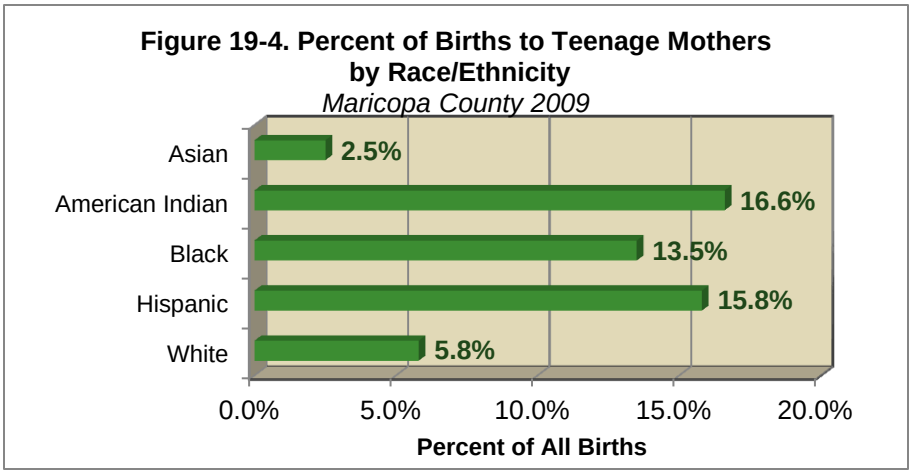


In 2009, the percent of births to teenage mothers in Maricopa County was lower than the percent for Arizona, as shown in Figure 19-3. However, the percent of births to teenage mothers in the U.S. was lower than Maricopa County.

Hispanic, Black, and American Indian Teenagers More Likely to Give Birth

Mothers who were American Indian (16.6%), Hispanic (15.8%), and Black (13.5%) had the highest percentage of teenage births in 2009, as shown in Figure 19-4. The birth rate for these race/ethnicities was 56.2, 36.9, and 29.8 births per 1,000 females aged 10-19, respectively.

Figure 19-4. Percent of Births to Teenage Mothers by Race/Ethnicity
Maricopa County 2009



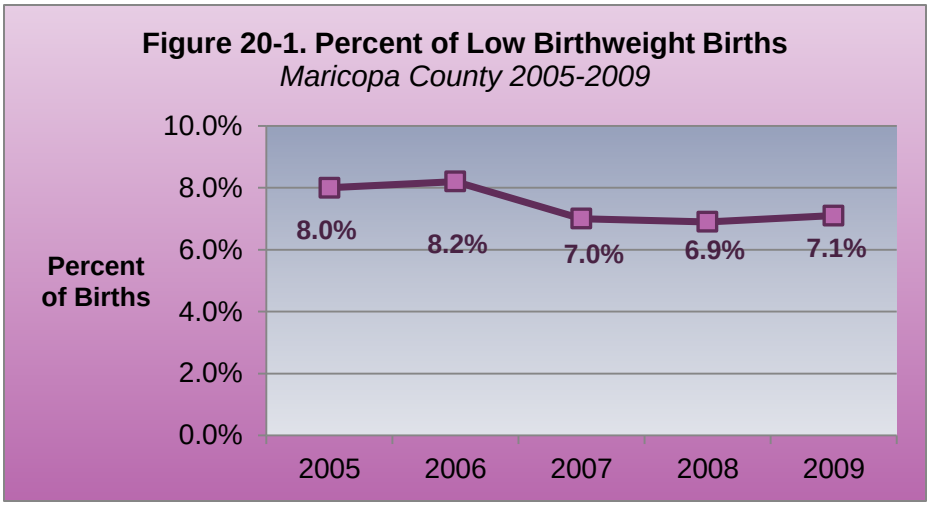
The teenage birth rate decreased in every race/ethnicity from 2005 to 2009. Table 19-1 shows the teenage birth rate by race/ethnicity for 2005 and 2009. It shows that Hispanics had the largest decrease in their teenage birth rate, decreasing by 30%. The overall teenage birth rate decreased by 20.6% during the five-year period.

Table 19-1. Births to Teen Mothers by Race/Ethnicity
Maricopa County, 2005 and 2009

	Births to Teenage Mothers, 2009	All Mothers, 2009	Births to teens as a percent of all births*	Teen birth rates 2009**	Teen birth rates 2005**	Percent Change
White	1,429	24,721	5.8%	11.6	12.9	-10.1%
Hispanic	4,033	25,449	15.8%	36.9	53.1	-30.5%
Black	432	3,203	13.5%	29.8	33.8	-11.8%
American Indian	287	1,731	16.6%	56.2	62.0	-9.4%
Asian	59	2,349	2.5%	8.2	9.8	-16.3%

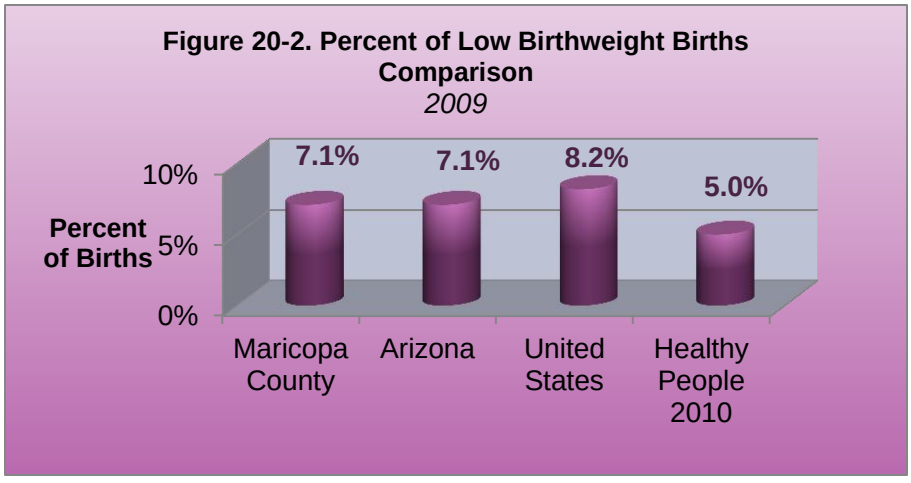
*How to read: 5.8% of white mothers giving birth in 2009 were 19 years old or younger.
**How to read: In 2009, there were 36.9 births to Hispanic teen mothers for every 1,000 Hispanic female teens in Maricopa County.

Low Birthweight



Key Finding

- The percent of infants with low birthweight (under 2500 grams) decreased slightly between 2005 and 2009.
- Maricopa County had a lower percentage of infants born at a low birthweight compared to the U.S., but did not meet Healthy People 2010 Goal of 5.0%.
- Black mothers had the highest percentage of infants born at a low birthweight in 2009.
- Teenagers and mother's over 35 years of age had the highest percentage of infants born at a low birthweight in 2009.

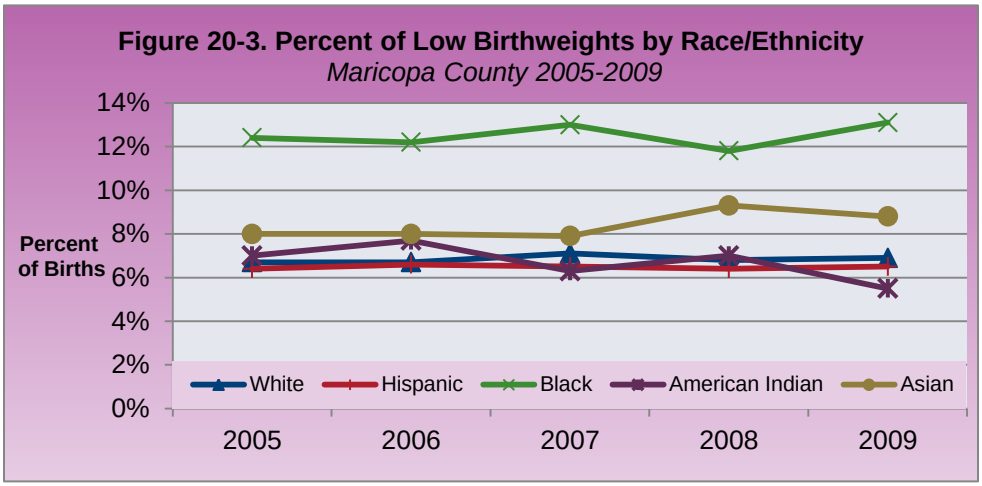


Low Birthweight Births Decreasing

In 2009, there were 4,118 births in which the infant weighed less than 2500 grams (5 pounds 8 ounces) to Maricopa County resident mothers. This equaled 7.1% of all births. As shown in Figure 20-1, the percent of births with a low birthweight has decreased since 2005. In 2005, 8.0% of the total births had a low birthweight. The lowest percent of births with a low birthweight occurred in 2008 when only 6.9% of births had a low birthweight.

The percent of low birthweight births in Maricopa County was the same as Arizona, but lower than the United States. As seen in Figure 20-2, 7.1% of births in Arizona had a low

birthweight compared to 8.2% of births in the United States. Despite having fewer low birthweight births compared to the United States, Maricopa County did not meet the Healthy People 2010 Goal of 5% of births.



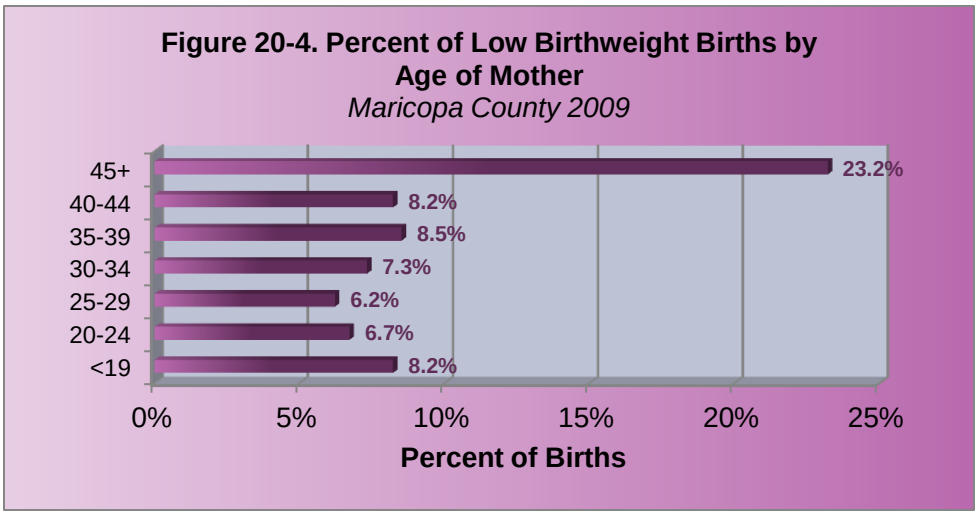
Black Mothers at Highest Risk for Low Birthweight Babies

Black mothers had the highest percent of low birthweight births. During the period between 2005 and 2009, the percent of low birthweight births born to Black mothers was approximately 12%, as shown in Figure 20-3. According to a study, Black mothers were younger, least likely to be married, least educated, and most likely to start prenatal care late or not at all. (9) Another study found that social economic status explained a large part of the difference between White and Black mothers. (10)

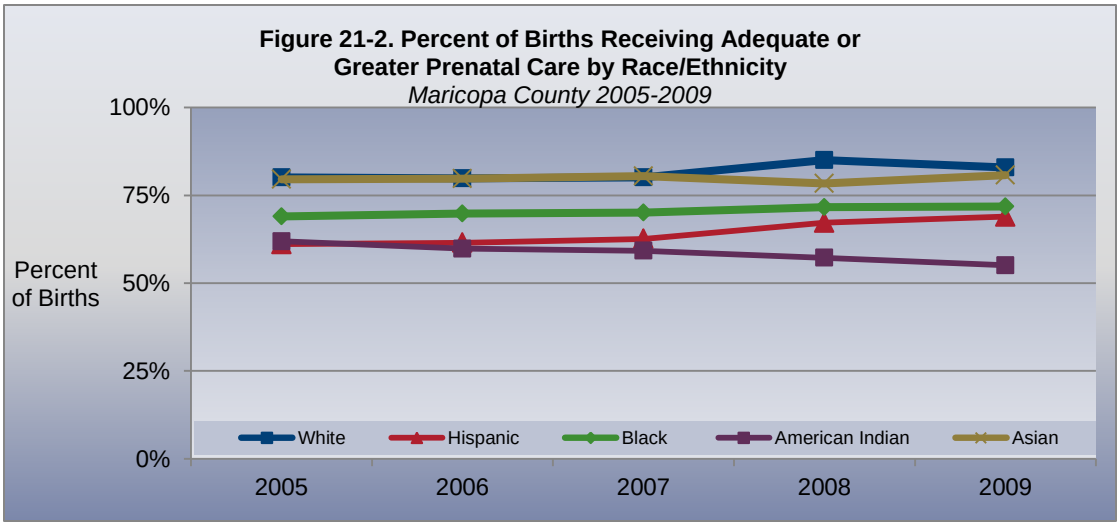
Asian mothers had the next highest percent of low birthweight births at around 9%, however, the reasons for a majority of these low birthweights has more to do with the physiology of the mother and not external factors such as prenatal care and preterm delivery. Hispanics and American Indians had the lowest percent of births with low birthweights.

Older Mothers Have Higher Percent of Low Birthweight Infants

Infants born to older mothers had the highest percent of low birthweight births. In 2009, nearly 1 in 4 infants (23.2%) had a low birthweight when the mother's age was 45 years or older. As seen in Figure 20-4, mothers in their twenties had the lowest percentage of low birthweight births.

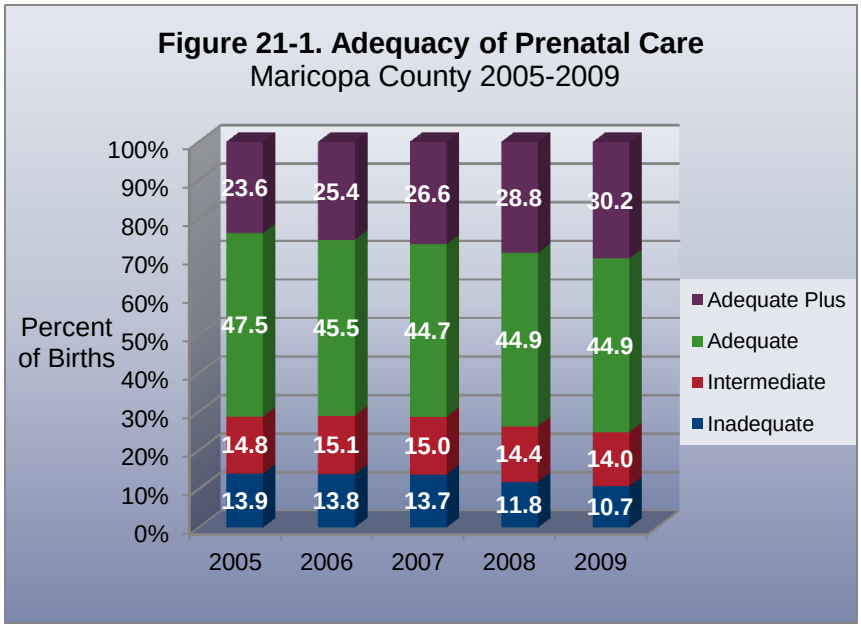


Prenatal Care



Key Finding

- In 2009, 75.1% of pregnant women, who gave birth to a single infant, received adequate prenatal care.
- Only 69% of pregnant Hispanic women and 55% of pregnant American Indian women received adequate prenatal care.
- Teenagers were less likely to receive adequate prenatal care compared to all other age groups.
- In 2009, 84.4% of pregnant women started prenatal care in the first trimester.
- White pregnant women and Asian pregnant women were more likely to start prenatal care in the first trimester.
- Teenagers were less likely to start prenatal care in the first trimester compared to all other age groups



More Mothers Receiving Prenatal Care

In 2009, 75.1% of pregnant women, who delivered a single baby, received adequate prenatal care. Between 2005 and 2009, the percent of pregnant women receiving at least adequate prenatal care has increased from 71.1% of mothers to 75.1%, a statistically significant increase (see Technical Notes for statistical test results). Figure 21-1 shows the percent of

births receiving each of the four categories measuring adequacy of prenatal care using the Adequacy of Prenatal Care Utilization Index (APCUI). The APCUI categories are based on the timing of the first prenatal visit and the number of visits received during the pregnancy. See the Technical Notes for additional information. Only singleton births (one infant per delivery) are included when calculating adequate care due to the patterns associated with plural births: more prenatal visits and shorter gestation.

Despite the increase in the percent of births receiving adequate prenatal care, Maricopa County did not meet the Healthy People 2010 Goal of 90% of births.

Hispanics and American Indians Less Likely to Receive Adequate Care

In 2009, over 80% of White and Asian pregnant women received adequate or better prenatal care.

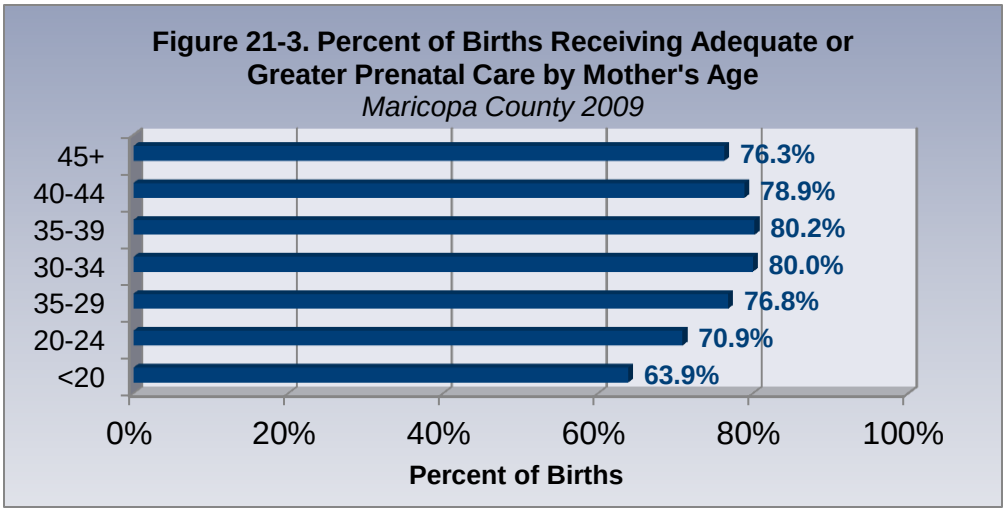
Pregnant women of other race/ethnicities were less likely to receive adequate prenatal care. Black pregnant women received adequate care for 72% of births while 69% of Hispanics received the same level of care. American Indian pregnant women had the lowest percent with only 55% receiving adequate prenatal care. American Indian was the only group to see a decrease in the percent of pregnant women receiving adequate prenatal care. They decreased from a high on 62% of mothers in 2005 to a low of 55% in 2009 (not shown).

Pregnant Teens Not Receiving Adequate Prenatal Care

In 2009, only 63.9% of teenagers in Maricopa County received adequate prenatal care during their pregnancies.

As shown in Figure 21-3, pregnant women in their thirties had the highest percentage of births receiving adequate prenatal care.

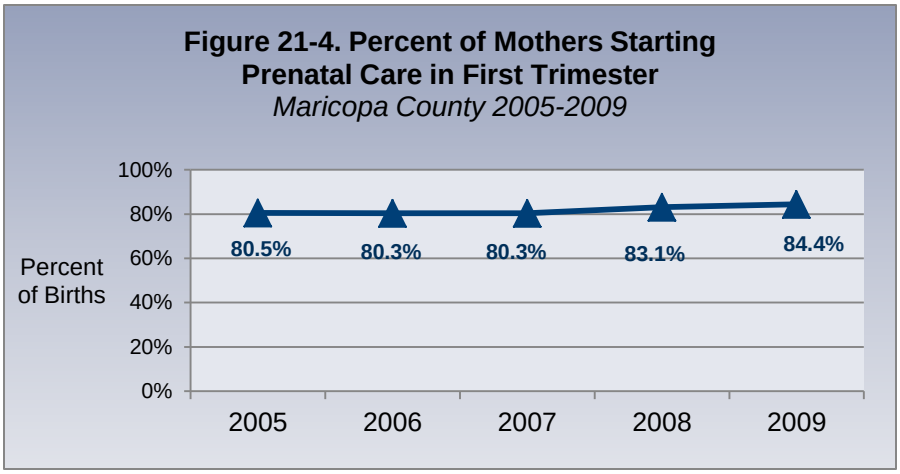
Figure 21-3. Percent of Births Receiving Adequate or Greater Prenatal Care by Mother's Age
Maricopa County 2009



More Pregnant Women Starting Prenatal Care in First Trimester

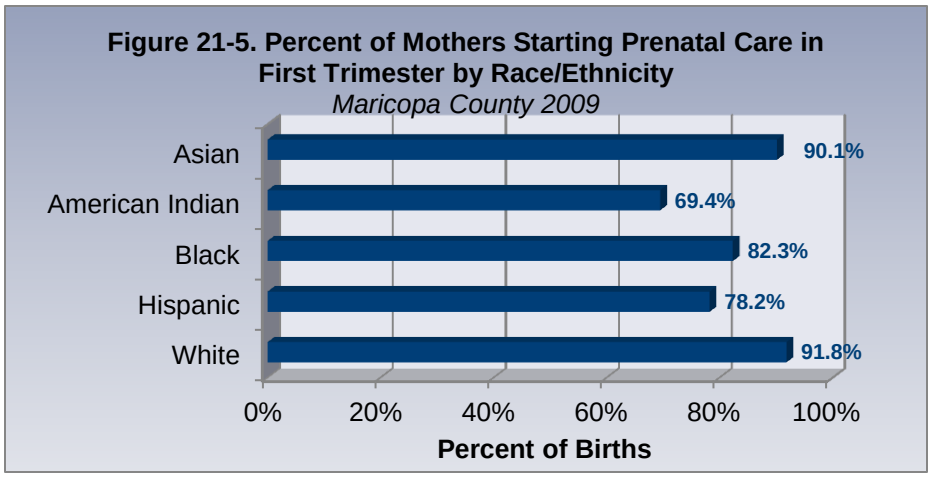
In 2009, 84.4% of pregnant women started their prenatal care in the first trimester of their pregnancy. Figure 21-4 shows that between 2005 and 2009, there was an increase in the percent of pregnant women starting prenatal care in the first trimester, increasing from 80.5% to 84.4%.

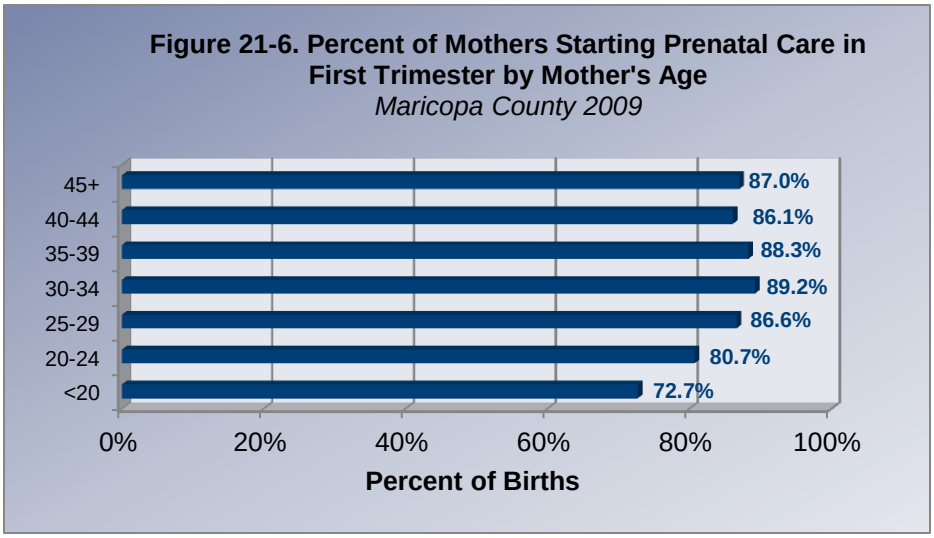
White and Asian pregnant women had the highest percent of women starting prenatal care in the first trimester, with 91.8% and 90.1% respectively. Both race/ethnicity groups met the Healthy People 2010 Goal. Black (82.3%) and Hispanic pregnant women (78.2%) had the next highest percentage. Only 69.4% of American Indians started prenatal care in the first trimester.



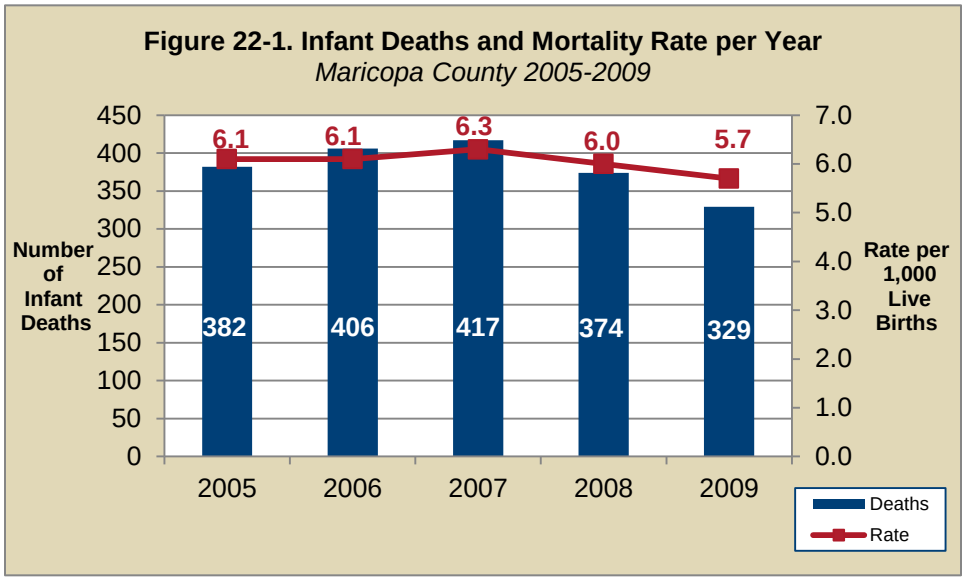
Teen Moms Not Starting Prenatal Care Early

In 2009, pregnant teenagers were less likely to start prenatal care in the first trimester compared to all other age groups. Whereas only 72.7% of pregnant teenagers started prenatal care in the first trimester, 89.2% of pregnant women age 30-34 years started in the first trimester. Figure 21-6 shows the percent of pregnant women in each age group that started prenatal care in the first trimester.





Infant Mortality



Key Finding

- In 2009, there were 329 infant deaths for an infant mortality rate of 5.7 deaths per 1,000 live births.
- The infant mortality rate decreased since 2005.
- Infants born with very low birthweights (<1,500 grams) had the highest infant mortality rate.
- Infants born to mothers with a college education had the lowest infant mortality rate.
- Infants born to Black mothers had the highest infant mortality rate.

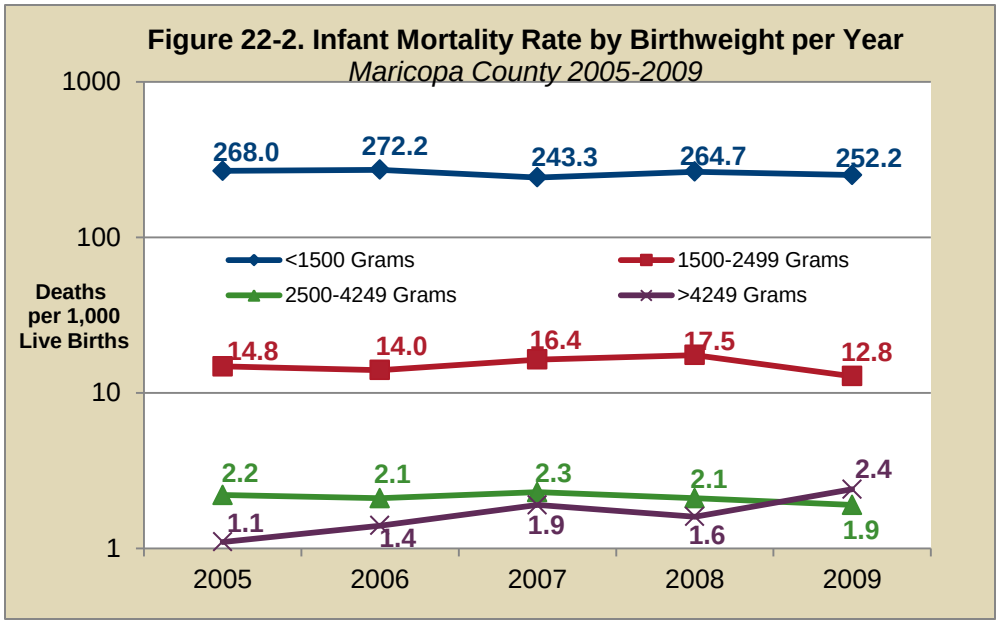
Infant Mortality Rate at 5-Year Low

In 2009, 329 infants died before their 1st birthday, for an infant mortality rate of 5.7 deaths per 1,000 live births. The majority of deaths were due to perinatal conditions and congenital malformations. Perinatal conditions include disorders related to short gestation and low birth weight while congenital malformations include conditions such as chromosomal abnormalities and heart defects.

The infant mortality rate in 2009 was the lowest between 2005 and 2009 as shown in Figure 22-1. The year with the highest infant mortality rate was in 2007 with a rate of 6.3 deaths per 1,000 live births.

Very Low Birthweight Infants at High Risk of Death in First Year

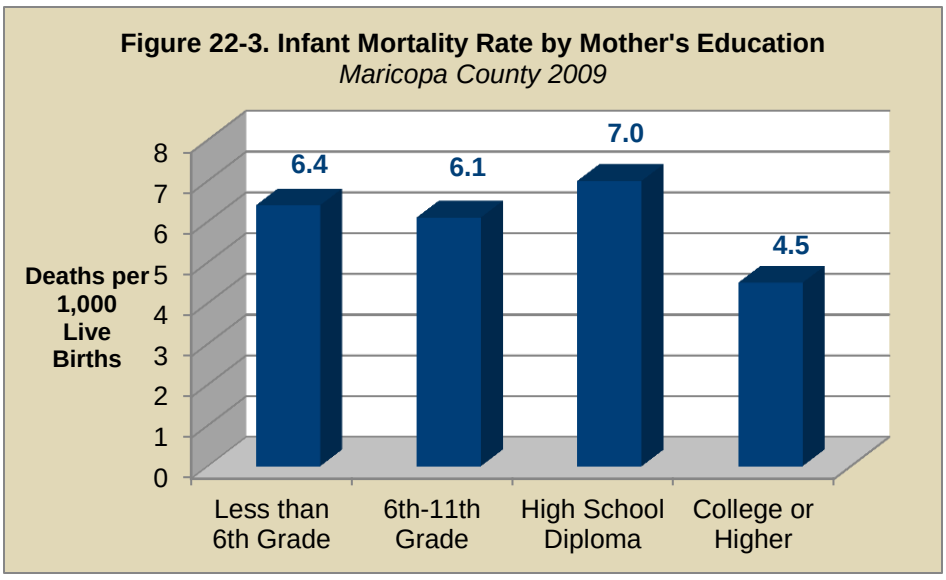
In 2009, there were 690 very low birthweight (<1,500 grams) births. Of these infants, 174 died within their first year of life, resulting in an infant mortality rate of 252.2 deaths per 1,000 live births. These infants by far had the highest infant mortality rate. The next highest infant mortality rate was for infants born with a low birthweight of 1,500-2,499 grams. There were 44 infant deaths out of 3,428 births for an infant mortality rate of 12.8



deaths per 1,000 live births. Compared to infants born with a healthy birthweight of 2,500-4,249 grams, low birthweight infants were 132 and 6.7 times more likely to die in their first year of life, respectively. Figure 22-2 shows the infant mortality rate for each birthweight range from 2005 through 2009.

College Educated Mother's Have Lowest Infant Mortality Rate

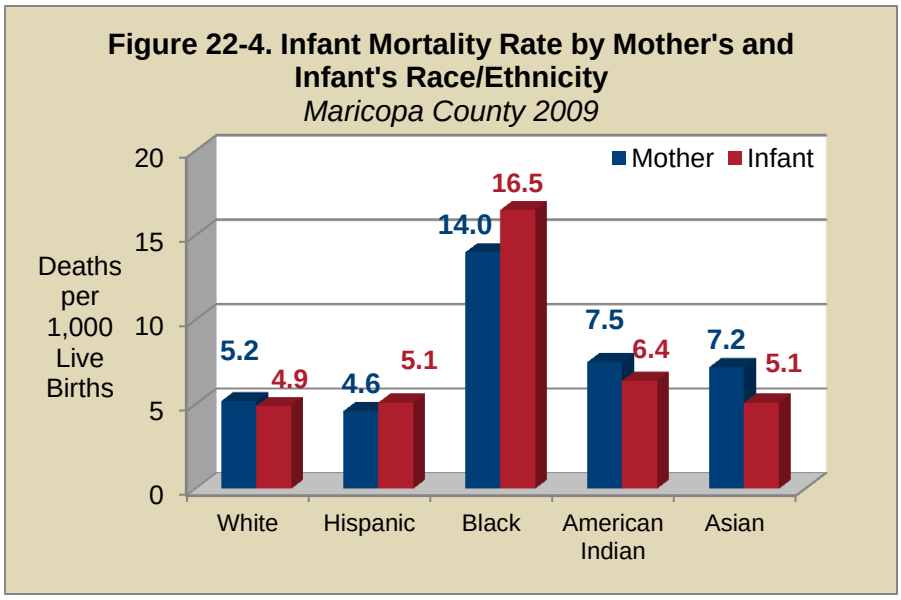
Mother's who reported at least a college education had the lowest infant mortality rate every year between 2005 and 2009. The infant mortality rate for college educated mothers ranged from 4.5 infant deaths per 1,000 live births in 2009 to 5.2 infant deaths per 1,000 live births in 2008. Figure 22-3 shows the infant mortality rate by mother's education in 2009.



Infants Born to Black Mothers Have Highest Infant Mortality Rate

Between 2005 and 2009, infants born to a Black mother had the highest infant mortality rate. In 2009, Black mothers had a infant mortality rate of 14.0 deaths per 1,000 live births. This rate was 3 times higher than the rate for Hispanic mothers who had the lowest rate at 4.6 deaths per 1,000 live births.

The infant mortality rate using the infant's race/ethnicity on the death certificate varies slightly compared to the race/ethnicity of the mother on the birth certificate. Figure 22-4 shows the infant mortality rate for the



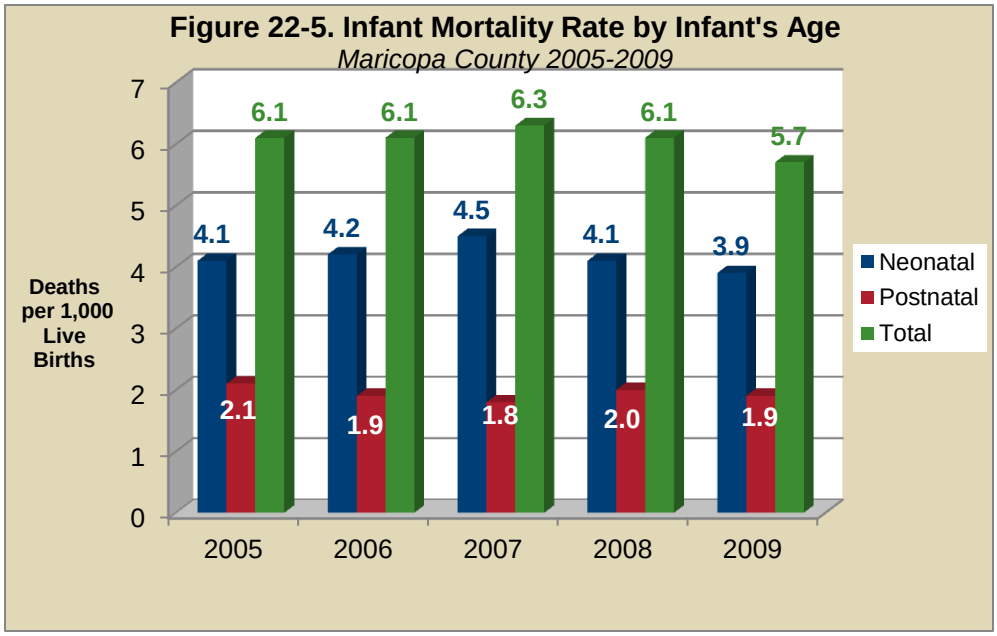
race/ethnicity of both the mother and the infant.

Infant Deaths More Likely To Occur in First 28 Days of Life

When infants fail to make it to their first birthday, they are more likely to die in the first 28 days of life than at any other point in that first year. The first 28 days of life is referred to as the neonatal period. Infants that die during the neonatal period typically die due to events that occurred in the prenatal (before birth) period. This may include deaths due to birth defects, short gestation, and low birthweight. The days after the first 28 days to the first birthday is called the postnatal period. Infants that die during the postnatal period typically die due to events that occur after delivery. This may include sudden infant death syndrome, birth defects, and injuries.

According to the CDC, the infant mortality rate for the neonatal period has decreased faster than the infant mortality rate for the postnatal period. (10) The faster decline in the neonatal period may be partially attributed to improvements in neonatal intensive care.

In 2009, the neonatal infant mortality rate of 3.9 deaths per 1,000 live births was 2 times the postnatal infant mortality rate of 1.9 deaths per 1,000 live births. (This analysis involved using unlinked death certificates. See Technical Notes for an explanation of linked and unlined methods.) Figure 22-5 shows the infant mortality rate by infant's age for Maricopa County between 2005 and 2009.



Social Determinants of Health

Life Satisfaction

Key Finding

- In 2009, 94.3% of Maricopa County residents state they had satisfied or very satisfied life satisfaction.
- In 2009, 87.1% of Maricopa County residents stated they had good or better health.

Maricopa County Residents Feel Happy

As seen in Figure 23-1, 48.0% of Maricopa County residents' satisfaction with life was very satisfied. Overall, 94.3% of the population felt that their life satisfaction was satisfied or very satisfied.

Table 23-1 shows the percent of respondents by sex, age, and race/ethnicity that responded that they were satisfied or very satisfied.

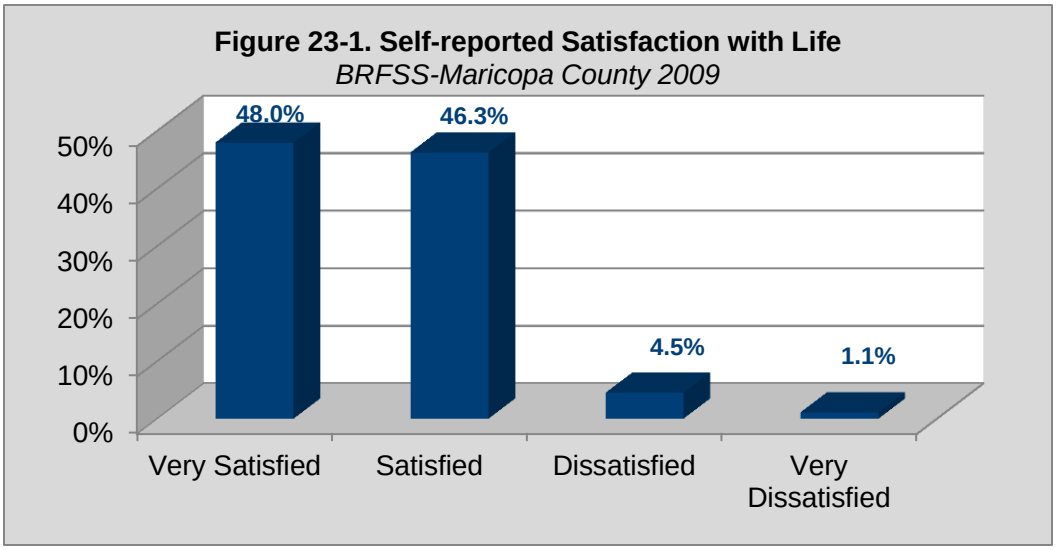
Table 23-1 Life Satisfaction
Satisfied or Very Satisfied
Maricopa County 2009 BRFSS

Group	Percent
Total	94.3
Sex	
Male	95.4
Female	93.3
Age group	
18-34	96.5
35-44	93.0
45-54	91.3
55-64	91.0
65+	97.6
Race	
White, non-Hispanic	94.9
Hispanic	93.0

In general, how satisfied are you with your life?

Maricopa County residents who were over the age of 65 had the highest percent of respondents reporting they were satisfied or very satisfied with life. There has been a recent interest in why the elderly population is happier than the younger populations. One study in particular found that older adults respond differently to conflicts compared to younger adults, and therefore might explain why they are happier. (11)

Figure 23-1. Self-reported Satisfaction with Life
BRFSS-Maricopa County 2009



Overall Self-Reported Health Good

As shown in Figure 23-2, the overall self-reported health of Maricopa County residents was good or better. Most

residents considered their health to be good or better while very few residents reported poor health. Yet, as many as one in eight report their health as fair or poor.

Table 24-1 shows the percent of respondents by sex, age, and race/ethnicity that responded that their general health was good or better.

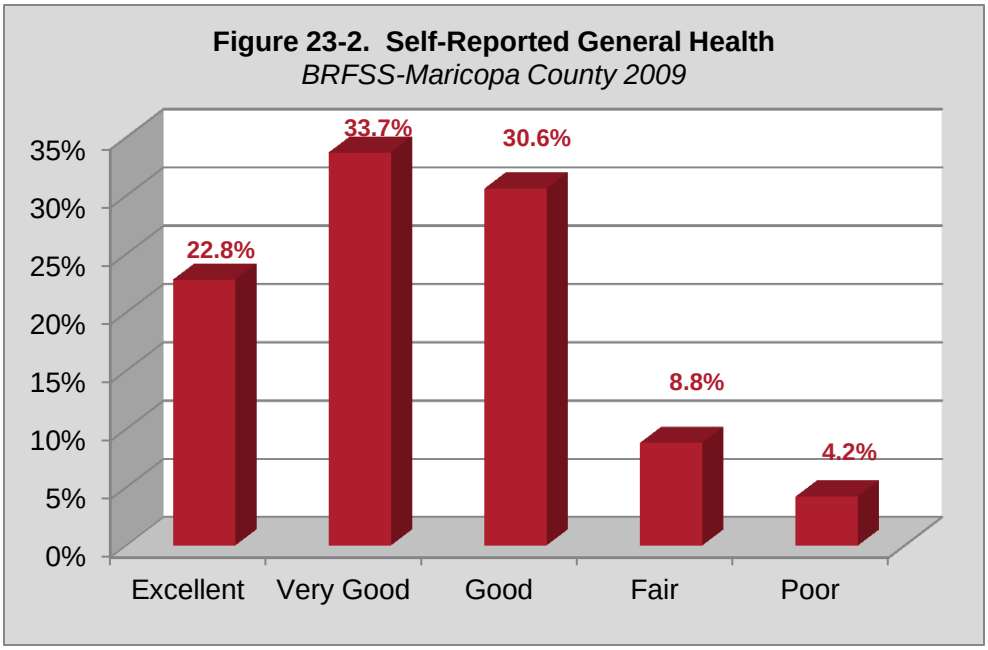
Younger respondents reported better general health compared their older counterparts. This may be due to the act of aging, i.e., as persons age they are more likely to develop chronic health conditions like heart disease, cancer, and diabetes.

Table 23-2 General Health Good or Better
Maricopa County 2009 BRFSS

Group	Percent
Total	87.1
Sex	
Male	88.4
Female	85.8
Age group	
18-34	96.1
35-44	87.0
45-54	79.8
55-64	82.5
65+	79.7
Race	
White, non-Hispanic	88.6
Hispanic	82.0

Would you say that in general your health is…?

Figure 23-2. Self-Reported General Health
BRFSS-Maricopa County 2009



Access to Care

Key Finding

- In 2009, 13.7% of Maricopa County residents were uninsured.
- Young adults 18-24 years old had the highest percentage of uninsured residents while adults 65 and older had the lowest percent uninsured.
- In 2009, 14.6% of residents were unable to afford to see a doctor when needed at least once in the past 12 months.
- Young adults 18-24 years old had the highest percentage of residents unable to afford a doctor when needed.
- In 2009, 21.1% of residents indicated they did not have a primary care provider.

Access to Care an Issue for Maricopa County Residents

Access to care is an important factor in determining the health of a person and community. A lack of access to care may involve several different factors including: lack of insurance, inability to afford a medical provider, and lack of a primary care provider.

Lacking health insurance, a primary care provider, or the ability to afford a medical visit may result in an individual not seeking medical care when needed. Medical conditions that are easily treated when treatment is sought in a timely manner may progress to serious conditions. A delay in treatment can lead to longer hospitalizations or more adverse outcomes such as amputation, paralysis, and even death.

Half a Million Maricopa County Residents without Health Insurance

According to the 2009 BRFSS, it is estimated that 13.7% of Maricopa County residents lack health insurance. With a population of about 4 million residents, this equates to over 500,000 residents living without health insurance.

As shown in Table 24-1, young adults 18-24 years old had the highest percentage of respondents reporting a lack of health insurance. There are many potential reasons why this age group has the highest percent of uninsured. According to a report by the Commonwealth Fund, some of the reasons for the lack of health insurance in young adults include being dropped by their parent's insurance or public insurance programs upon graduation from high school or college, low-wage jobs, and high unemployment rates for this age group. (12) The report goes on to say that 15% of young adults 18 to 29 years old have at least one

serious health condition such as asthma, cancer, or diabetes; that more than half can be considered overweight or obese; and that 36% of females are infected with the human papillomavirus, a leading cause of cervical cancer if left untreated.

Table 24-1 Percent Uninsured
Maricopa County 2009 BRFSS

Group	Percent
Total	13.7
Sex	
Male	12.7
Female	14.6
Age group	
18-34	20.3
35-44	18.5
45-54	10.7
55-64	8.1
65+	2.3
Race	
White, non-Hispanic	8.8
Hispanic	33.2

Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?

Many Unable to Afford Medical Care

Although many Maricopa County residents lack health insurance, some are able to pay out-of-pocket when they need to seek medical care. Other residents may have health insurance but are unable to pay the fees such as co-pays and therefore are unable to afford medical care. In 2009, 14.6% of Maricopa County residents reported an inability to seek medical care due to the inability to afford it. This may result in an individual delaying medical treatment until it becomes an emergency, potentially leading to even higher medical costs that cannot be afforded.

As shown in Table 24-2, a higher percentage of young adults reported an inability to afford medical care when needed than any other age group. This corresponds with this age group having the highest percentage of residents lacking health insurance.

Table 24-2 Affordability of Medical Care
Maricopa County 2009 BRFSS

Group	Percent
Total	14.6
Sex	
Male	14.4
Female	14.8
Age group	
18-34	18.8
35-44	15.4
45-54	18.8
55-64	10.4
65+	3.5
Race	
White, non-Hispanic	11.8
Hispanic	26.4

Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?

A higher percentage of White residents reported an inability to afford medical care when needed than reported lacking health insurance.

One in Five Residents Lack a Primary Care Provider

Another important factor in an individual seeking medical care is the access to a primary care provider. In 2009, 21.1% of Maricopa County residents reported a lack of a primary care provider.

Table 24-3 shows that Hispanic residents were less likely to have a primary care provider compared to White residents.

Table 24-3 Lack of Primary Care Provider
Maricopa County 2009 BRFSS

Group	Percent
Total	21.1
Sex	
Male	25.6
Female	16.6
Age group	
18-34	28.9
35-44	39.4
45-54	17.5
55-64	11.2
65+	7.2
Race	
White, non-Hispanic	14.0
Hispanic	44.5

Percent no to having at least one health care provider. Do you have one person you think of as your personal doctor or health care provider?

Residents over 65 years old had the highest percent of residents reporting a primary care provider. Residents under 45 years of age had the lowest percent of residents reporting a primary care provider. The age group with the lowest percent was the 35-44 age group that had 39.4% reporting a lack of a primary care provider.

Technical Notes

See the report *Maricopa County Health Status Report 2005-2009 Five Year Trends Reference Tables* for additional statistics on deaths, diseases, and births. The document is available at http://www.maricopa.gov/publichealth/Services/EPI/Reports/status.aspx.

Data Sources

The data presented in this report comes from five different sources: population (U.S. Census) data, mortality (death) data, morbidity (communicable disease) data, natality (birth) data, and BRFSS (behavioral) data. These data are not separated into individual sections in this report, but rather interspersed together. Each type of data is described in more detail below.

Population Statistics

This report uses the most recent U.S. Census data and estimates for population figures.

- The Maricopa County population is from the U.S. Census Bureau, County Population Estimates by Age, Sex, Race and Hispanic Origin for July 1, 2009, released June 10, 2010. This is at http://www.census.gov/popest/counties/asrh/files/cc-est2009-alldata-04.csv

This report defines "Hispanic" as all respondents listing Hispanic as origin, either alone or in combination with any race. The table below shows how the U.S. Census variables of "origin" and "race" are used for categorization in this report. Appendix A has the 2009 Population Tables for Maricopa County by race/ethnicity, sex, and age.

Table.25-1 Race/Ethnicity Categories Used in This Report

Category Used in This Report	**U.S. Census Code "Race"**	**U.S. Census Code "Origin"**
White	Race=1 (White Alone)	Origin=1 (Non-Hispanic)
African American	Race=2 (Black Alone)	Origin=1 (Non-Hispanic)
American Indian, Non-Hispanic	Race=3 (American Indian or Alaska Native Alone)	Origin=1 (Non-Hispanic)
Asian	Race=4 (Asian Alone) or 5 (Native Hawaiian or Other Pacific Islander Alone)	Origin=1 (Non-Hispanic)
Other	Race=6 (Two or More Races)	Origin=1 (Non-Hispanic)
Hispanic	Race=1,2,3,4,5,6	Origin=2 (Hispanic)

Death (Mortality) Statistics

All data on mortality statistics are from death certificates included in the Arizona Department of Health Services (ADHS) final annual files. The data presented in this report include Maricopa County residents only. This includes Maricopa County residents who died in Maricopa County and residents who died elsewhere. Non-Maricopa County residents who died in Maricopa County are not included.

There are two different types of rates that are used in the death statistics; crude death rate and age-adjusted death rate.

Crude death rates are calculated by taking the number of deaths and dividing it by the number of residents in Maricopa County. This number is then multiplied by 100,000 to get a rate per 100,000 residents. This may be done for the total population or within an appropriate age, sex, or race/ethnicity category.

Age adjusting is used to compare Maricopa County's rates to the U.S. This means that statistical methods were used to insure that the difference between rates for the two groups reflects actual disease differences and not only differences in age compositions. When death rates for two different groups are compared without using age adjusting, it may appear that one group or the other has a higher death rate. However, the higher death rate may be due solely to the fact that one group has an older population, a population more likely to die of any and all causes. Age adjusting takes this into account so that if there is a difference in death rates, it is due to factors other than the age of the population.

When they are age-adjusted, Maricopa County rates are adjusted to the 2000 standard population using the direct method described in *Health, United States, 2002* published by the National Center for Health Statistics at www.cdc.gov/nchs/data/hus/hus02.pdf, p.414. Arizona, Healthy People goals, and U.S. rates included in this report are published as age-adjusted to the 2000 standard population by the agencies generating the rates.

All tables comparing death rates of race/ethnic groups are age adjusted, as noted in the table titles. For mortality and morbidity (communicable disease), rates for some racial/ethnic populations such as American Indians, Asians, and African Americans may be high compared to other groups. Because these groups have relatively small populations in Maricopa County, these rates may represent very few deaths/cases. Among small populations, rates are less stables so one case or death can cause a big increase or decrease in the rates from year to year. Therefore, it is advisable to examine the raw number of cases or deaths, in addition to the rates.

Unless otherwise noted, all death are attributed to one underlying condition, based on death certificate information, using the rules of the International Classification of Diseases, 10th Revision (ICD-10). Causes of death are classified by ICD-10 codes. The codes used for each category are listed in Table 25.2 below.

Table 25-2 ICD-10 Codes used for This Report

Cause	ICD-10 Codes Used
Tuberculosis	A16-A19
HIV Disease	B20-B24
Malignant Neoplasms (Cancer)	C00-C97
Malignant Neoplasm of the Colon	C18-C21
Malignant Neoplasm of the Pancreas	C25
Malignant Neoplasm of Bronchus, Lung, or Trachea	C33-C34
Malignant Neoplasm of the Breast	C50
Malignant Neoplasm of the Prostate	C61
Malignant Neoplasm of Urinary Organs	C64-C68
Non-Hodgkins Lymphoma	C82-C85
Leukemia	C91-C95
Diabetes	E10-E14
Alzheimer's	G30
Major Cardiovascular Disease	I00-I78
Disease of Heart	I00-I09, I11, I13, I20-I51
Cerebrovascular Diseases	I60-I69
Influenza & Pneumonia	J09-J18
Chronic Lower Respiratory	J40-J47
Asthma	J45-J47
Liver Disease,	K70, K73-K74
Motor Vehicle Collisions	V02-V04, V09.0, V09.2, V12-V14, V19.0 - V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0 V89.2
All Other Accidents & Adverse Effects	V01, V05-V06, V09.1, V09.3-V09.9, V10-V11, V15-V18, V19.3, V19.8-V19.9, V80.0-V80.2, V80.6-V80.9, V81.2-V81.9, V82.2-V82.9, V87.9, V88.9, V89.1, V89.3, V89.9 V90-X29, X31-X59, Y40-Y86, Y88
Falls	W00-W19
Accidental Poisoning	X40-X49
Suicide	U03, X60-X84, Y87.0
Homicide	U01-U02, X85-Y09, Y87.1
Alcohol Induced or Related	F10, G31.2, G62.1, I42.6, K29.2, K70, R78.0, X45, X65, Y15

The following are technical information for specific causes of death:

- In this report, **unintentional injury** deaths include all unintentional injuries except for "complications of medical and surgical care". In *Maricopa County Health Status Report 2005-2009 Five Year Trends Reference Tables* unintentional injuries include both "motor vehicle accidents", and "all other accidents and adverse effects" including complications of medical/surgical care. See the Technical Notes of that document for more details.

- The mortality rate for **breast cancer** is calculated among women only (using only female residents in the denominator) and **prostate cancer** is calculated among men only (using only male residents in the denominator).

- **Alcohol induced deaths** included deaths from a number of other categories, such as suicide, homicide, accidental injury, etc. They may be attributed to a short or long term effect of alcohol, such as acute alcohol intoxication or alcoholic cardiomyopathy. For example, the alcohol induced category includes mental and behavioral disorders due to use of alcohol, degeneration of nervous system due to alcohol, alcoholic polyneuroapthy, alcoholic cardiomyopathy, alcoholic gastritis, alcoholic liver diseases, finding of alcohol in blood, accidental poisoning by alcohol, intentional self-poisoning by alcohol, and unknown intent poisoning by alcohol. Alcohol induced deaths do not include deaths in motor vehicle accidents or other accidents while intoxicated or under the influence.

Comparison death rates for Arizona can be found in *Arizona Health Status and Vital Statistics 2009*, published by the ADHS at http://www.azdhs.gov/plan/report/ahs/ahs2009/chptr2a_2d.pdf. Figures for the U.S. are preliminary 2009 data. The data were published in National Vital Statistics Reports, Vol 59, no4, March 16, 2011. These data can be found at: http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_04.pdf. Healthy People 2010 Goals are set by the Department of Health and Human Services and may be found at www.healthypeople.gov/Document /tableofcontents.htm.

Communicable Disease (Morbidity) Statistics

All data on morbidity statistics include communicable diseases to residents of Maricopa County. This includes residents who acquired a disease in Maricopa County and residents who acquired a disease elsewhere. Non-Maricopa County residents are not included, even if they acquired a disease in Maricopa County. Other reports may show different morbidity rates because they include non-residents who acquired disease in Maricopa County or they exclude residents who were exposed outside of the county.

All data on communicable disease are new cases of reportable diseases included in the ADHS final annual files. There are several exceptions: data on genital herpes, gonorrhea, Chlamydia, and syphilis are from MCDPH data files.

Morbidity data include only confirmed cases, with the exception of West Nile virus. West Nile virus includes both confirmed and probably cases.

This report provides a brief summary of the Novel H1N1 Influenza pandemic in Maricopa County. Additional information regarding influenza is available in the weekly influenza report for Maricopa County found on the Maricopa County Department of Public Health website at http://www.maricopa.gov/PublicHealth/Services/EPI/Reports/influenza.aspx under the influenza seasons for 2008-2009 and 2009-2010. A detailed report on the pandemic in Maricopa County will be released soon at http://www.maricopa.gov/publichealth/Services/EPI/Reports/default.aspx.

Classification of HIV and AIDS is based on the measurement of the CD4 cells. A person is counted as a new AIDS case if the CD4 cells for a person with HIV drops below the threshold in that calendar year. It is possible that the CD4 cell count will raise above the threshold after falling below it, however the person would still be counted as a new AIDS case. When the CD4 cell count drops below the threshold again, they are not counted as another new case, even if this happens in another calendar year.

Comparison morbidity rates for Arizona can be found in *Arizona Health Status and Vital Statistics* 2009, http://www.azdhs.gov/plan/report/ahs/ahs2009/chptr3a_3c.pdf. The rates for HIV and AIDS for Arizona were provided directly from ADHS on October 1, 2010. All U.S. rates are for 2009 and may be found in *Morbidity and Mortality Weekly Report Vol 58 no. 53 May 13, 2011* at http://www.cdc.gov/mmwr/PDF/wk/mm5853.pdf.

Birth (Natality) Statistics

All data on natality statistics are from birth certificates included in the Arizona Department of Health Services (ADHS) final annual files. The data presented in this report include births to mothers whose county of residence is Maricopa County. This may include births that did not occur in Maricopa County. Also included are some births that occurred outside of Arizona to mothers who reside in Arizona but the county and city of residence is unknown. National Center for Health Statistics rules state that if a birth does not occur in the state of residency and the county and city are unknown, the city of residency is assigned to the largest city in the state of residency. For Arizona, the largest city is Phoenix. For further explanation, please see http://www.cdc.gov/nchs/data/dvs/3amanual.pdf.

Adequate prenatal care is based on the Adequacy of Prenatal Care Utilization Index (APCUI). (13) This index considers both the timing of prenatal care initiation and the number of visits after care was initiated, comparing the number of actual visits to the number of visits recommended by the American College of Obstetricians and Gynecologists. This index does not describe the quality of the care or adjust for maternal risk factors. Only singleton births (the birth of one baby rather than twins, triplets or other multiple births) are shown in these tables because twins and higher order births are typically higher risk pregnancies, and the index is not appropriate for summarizing their prenatal care usage.

a) Inadequate: Prenatal care began after the fourth month of pregnancy or less than 50% of the expected prenatal care visits were attended
b) Intermediate: Prenatal care began before the fourth month and 50 to 70% of the expected visits were attended
c) Adequate: Prenatal care began prior to the fourth month and 80-109% of expected visits were attended
d) Adequate plus: Prenatal care began prior to the fourth month of pregnancy and 110% or more of the expected visits were attended.

Infant mortality statistics shown in this report are from linked and unlinked data. An explanation of linked and unlinked data is presented below.

The following definitions related to reproductive health have been established by NCHS which were adopted by the World Health Organization (WHO):

- Birth or Live Birth – The complete expulsion or extraction from the mother of a product of human conception, irrespective of the duration of pregnancy or birthweight which, after such expulsion or extraction, breathes or shows any other evidence of life such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached.

- Birth Rate – Number of live births during a calendar year per 1,000 women age 15 to 44.

- Births to Teenage Mothers − Live births occurring to females under age twenty.

- Birth Weight – The weight of a neonate determined immediately after delivery or as soon thereafter as possible.

- Low Birthweight – Any neonate weighing less than 2,500 grams at birth (less than 5 pounds, 8 ounces).

- Very Low Birthweight – Any neonate weighing less than 1,500 grams at births (less than 3 pounds, 4 ounces).

- Preterm – Any neonate whose birth occurs through the end of the last day of the 37^{th} week (259^{th} day), following onset of the last menstrual period.

- Infant Death – Any death at any time from birth up to, but not including, the first year of age (<365 days).

- Infant Mortality Rate – Number of infant deaths per 1,000 live births.

- Neonatal Mortality Rate – Number of deaths to infants at or under 28 days of age, per 1,000 live births.

- Postnatal (Postneonatal) Mortality Rate – Number of deaths to infants between 29 days and 365 days after birth, per 1,000 live births.

- Unlinked Infant Mortality – The number of infant deaths in a given calendar year, as determined from mortality records (death certificates) alone.

- Linked Infant Mortality – Whenever possible, infant death certificate data are linked to birth certificate information to determine parental, demographic and birth data. Not all infant deaths can be linked (up to 3% are lost to follow-up). In this report, MCDPH created a linked death cohort such that one calendar year of infant death data linked back to the birth data from the current or prior calendar year.

Comparisons to U.S. data are preliminary for 2009, from the National Center for Health Statistics and can be found in *Births: Preliminary Data for 2009,* National Vital Statistics Reports, Vol 59, no 3, December 21, 2010 at http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_03.pdf. Arizona figures for 2009 can be found in *Arizona Health Status and Vital Statistics 2009,* published by the ADHS at http://www.azdhs.gov/plan/report/ahs/ahs2009/chptr1a_1d.pdf.

Behavioral (BRFSS) Statistics

Data from the Behavioral Risk Factor Surveillance System (BRFSS) was used to determine frequencies of health related risk factors. The BRFSS is a state-based, cross-sectional, random telephone survey, of household residents aged 18 and older. It has been conducted in Arizona since 1982. The BRFSS gathers information on risk factors related to both chronic and infectious diseases. Data are weighted to account for unequal probabilities of being selected and to adjust the numbers of those selected to reflect the actual state population estimates. For more information on the BRFSS visit the CDC's BRFSS website: http://www.cdc.gov/brfss/index.htm or Arizona Behavioral Risk Factor Survey at: http://www.azdhs.gov/plan/brfs/.

Appendix B shows the number of individuals who responded in the affirmative (based on the specific answers already described) to the specified criteria. The total number of respondents per demographic group is shown in the first row, next to "Total Observations." Unweighted N's are the total number of respondents who answered each questions by demographic groups. Weighted N's are not shown.

Notes for Specific Sections of This Report

Years of Potential Life Lost

Years of Potential Life Lost (YPLL) is an estimate of the additional years people might have lived had they not died prematurely from a given cause of death. The following method is used to calculate YPLL"

- First, the life expectancies for men and women in the U.S. are obtained from the National Center for Health Statistics. For 2009, these were 75.7 years for men and 80.6 years for women.
- Second, the age of each decedent was subtracted from the life expectancy for males and females depending on the sex of the decedent to determine the YPLL for each decedent. If the decedent lived past the age of life expectancy, they were given a value of 0 for YPLL.
- Third, the YPLL was added up for each decedent to calculate the total number of YPLL in Maricopa County and by each reported cause of death.

By reporting YPLL, causes of death that have a tendency to occur in an older population, such as heart disease and Alzheimer's disease, have less weight than deaths that occur in a younger population, such as homicide and suicide. In 2009, Alzheimer's disease was the 4th leading cause of death, suicide was the 9th, and homicide was not in the Top Ten. Based on the YPLL, suicide resulted in the 4thmost YPLL, homicide the 5th, and Alzheimer's disease was not in the Top Ten of YPLL.

Healthy People 2010 Goals

The CDC provides national health goals for the year 2010 – Healthy People (HP) 2010 goals. These goals appear throughout the report.

More information on the technical aspects of HP 2010 can be found at www.healthypeople.gov/document/tableofcontents.htm.

Statistical Significance

When a difference is observed between different rates (either one year to the next year or between different population groups (race/ethnicity, sex, or age), statistical tests may be performed to see if the difference is statistically significant. Statistical significance means that the difference observed between the two values was unlikely to have been due to chance. Table 25-3 shows the statistical tests and their results for the places where a statistically significant difference was observed between two values.

Table 25-3 Statistical Test Results

Section/page	Comparison Group	Statistical Test	Test Results	p-value
Unintentional Injury/40	2005, 2009	Poisson Regression	Wald $X^{2=}$79.91	$\leq$0.001
Homicide/54	2005-2009	Chi square for linear trend	$X^{2=}$50.5	$\leq$0.05
Prenatal Care/70	2005-2009	Chi square for linear trend	$X^{2=}$293.965	$\leq$0.005

Appendix A

2009 Population Tables

Table 26.1 Population Estimates for Age by Sex, Race/Ethnicity by Sex, and Age by Race/Ethnicity, 2009

Age by Sex

Age	Males		Females		Total	
	No.	%	No.	%	No.	%
0-4	169,660	8.4%	163,233	8.2%	332,893	8.3%
5-9	160,941	7.9%	154,155	7.7%	315,096	7.8%
10-14	144,530	7.1%	137,454	6.9%	281,984	7.0%
15-19	139,063	6.8%	128,281	6.4%	267,344	6.6%
20-24	138,586	6.8%	125,074	6.3%	263,660	6.6%
25-34	336,983	16.6%	300,143	15.1%	637,126	15.8%
35-44	297,414	14.6%	274,211	13.8%	571,625	14.2%
45-54	259,853	12.8%	258,413	13.0%	518,266	12.9%
55-64	184,815	9.1%	201,035	10.1%	385,850	9.6%
65-74	108,131	5.3%	123,172	6.2%	231,303	5.7%
75-84	66,767	3.3%	85,406	4.3%	152,173	3.8%
85+	23,807	1.2%	42,005	2.1%	65,812	1.6%
Total	2,030,550		1,992,582		4,023,132	

Race/Ethnicity by Sex

Race/Ethnicity	Males		Females	
	No.	%	No.	%
White	1,140,454	56.2%	1,173,035	58.9%
Hispanic	678,597	33.4%	602,049	30.2%
African American	91,091	4.5%	88,243	4.4%
American Indian	31,615	1.6%	34,066	1.7%
Asian	59,992	3.0%	65,885	3.3%
Other/2+ Races	28,801	1.4%	29,304	1.5%
Total	2,030,550		1,992,582	

Age by Race/Ethnicity

Age	White		Hispanic		African American		American Indian		Asian		Other/2+ Races		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
0-4	128,790	5.6%	161,497	12.6%	16,381	9.1%	6,536	10.0%	10,146	8.1%	9,543	16.4%	332,893
5-9	130,595	5.6%	143,908	11.2%	16,640	9.3%	5,892	9.0%	9,617	7.6%	8,444	14.5%	315,096
10-14	128,159	5.5%	118,634	9.3%	14,967	8.3%	4,975	7.6%	8,121	6.5%	7,128	12.3%	281,984
15-19	127,100	5.5%	107,821	8.4%	14,820	8.3%	5,412	8.2%	6,662	5.3%	5,529	9.5%	267,344
20-24	128,693	5.6%	103,771	8.1%	14,227	7.9%	5,768	8.8%	6,760	5.4%	4,441	7.6%	263,660
25-34	315,760	13.6%	246,235	19.2%	29,509	16.5%	13,710	20.9%	23,398	18.6%	8,514	14.7%	637,126
35-44	320,654	13.9%	185,588	14.5%	26,049	14.5%	9,723	14.8%	24,257	19.3%	5,354	9.2%	571,625
45-54	355,177	15.4%	113,025	8.8%	22,451	12.5%	6,949	10.6%	16,466	13.1%	4,198	7.2%	518,266
55-64	297,526	12.9%	57,753	4.5%	13,338	7.4%	3,831	5.8%	10,796	8.6%	2,606	4.5%	385,850
65-74	189,453	8.2%	26,148	2.0%	6,575	3.7%	1,828	2.8%	5,895	4.7%	1,404	2.4%	231,303
75-84	132,263	5.7%	12,136	0.9%	3,407	1.9%	816	1.2%	2,848	2.3%	703	1.2%	152,173
85+	59,319	2.6%	4,130	0.3%	970	0.5%	241	0.4%	911	0.7%	241	0.4%	65,812
Total	2,313,489		1,280,646		179,334		65,681		125,877		58,105		4,023,132

Table 26.2 Population Estimates by Race/Ethnicity, Age, and Sex, 2009

Females Age	White		Hispanic		African American		American Indian		Asian		Other/2+ Races		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
0-4	62,912	5.4%	79,254	13.2%	8,101	9.2%	3,295	9.7%	5,006	7.6%	4,665	15.9%	163,233
5-9	63,821	5.4%	70,182	11.7%	8,282	9.4%	2,938	8.6%	4,830	7.3%	4,102	14.0%	154,155
10-14	62,286	5.3%	57,858	9.6%	7,417	8.4%	2,423	7.1%	4,053	6.2%	3,417	11.7%	137,454
15-19	61,238	5.2%	51,387	8.5%	7,059	8.0%	2,688	7.9%	3,177	4.8%	2,732	9.3%	128,281
20-24	62,697	5.3%	47,247	7.8%	6,602	7.5%	2,875	8.4%	3,421	5.2%	2,232	7.6%	125,074
25-29	80,900	6.9%	54,117	9.0%	7,340	8.3%	3,687	10.8%	5,627	8.5%	2,507	8.6%	154,178
30-34	74,551	6.4%	52,784	8.8%	6,678	7.6%	3,432	10.1%	6,592	10.0%	1,928	6.6%	145,965
35-39	77,725	6.6%	46,275	7.7%	6,738	7.6%	2,745	8.1%	6,982	10.6%	1,479	5.0%	141,944
40-44	79,903	6.8%	37,180	6.2%	6,066	6.9%	2,294	6.7%	5,544	8.4%	1,280	4.4%	132,267
45-49	91,185	7.8%	30,533	5.1%	5,940	6.7%	2,139	6.3%	4,706	7.1%	1,174	4.0%	135,677
50-54	88,346	7.5%	22,677	3.8%	4,972	5.6%	1,661	4.9%	4,076	6.2%	1,004	3.4%	122,736
55-59	81,581	7.0%	16,809	2.8%	4,055	4.6%	1,279	3.8%	3,429	5.2%	810	2.8%	107,963
60-64	73,818	6.3%	12,143	2.0%	2,821	3.2%	886	2.6%	2,775	4.2%	629	2.1%	93,072
65-69	56,779	4.8%	8,123	1.3%	2,050	2.3%	603	1.8%	2,007	3.0%	460	1.6%	70,022
70-74	43,691	3.7%	5,782	1.0%	1,469	1.7%	475	1.4%	1,412	2.1%	321	1.1%	53,150
75+	111,602	9.5%	9,698	1.6%	2,653	3.0%	646	1.9%	2,248	3.4%	564	1.9%	127,411
Total	1,173,035		602,049		88,243		34,066		65,885		29,304		1,992,582
Males													
0-4	65,878	5.8%	82,243	12.1%	8,280	9.1%	3,241	10.3%	5,140	8.6%	4,878	16.9%	169,660
5-9	66,774	5.9%	73,726	10.9%	8,358	9.2%	2,954	9.3%	4,787	8.0%	4,342	15.1%	160,941
10-14	65,873	5.8%	60,776	9.0%	7,550	8.3%	2,552	8.1%	4,068	6.8%	3,711	12.9%	144,530
15-19	65,862	5.8%	56,434	8.3%	7,761	8.5%	2,724	8.6%	3,485	5.8%	2,797	9.7%	139,063
20-24	65,996	5.8%	56,524	8.3%	7,625	8.4%	2,893	9.2%	3,339	5.6%	2,209	7.7%	138,586
25-29	83,073	7.3%	69,810	10.3%	8,512	9.3%	3,437	10.9%	5,139	8.6%	2,289	7.9%	172,260
30-34	77,236	6.8%	69,524	10.2%	6,979	7.7%	3,154	10.0%	6,040	10.1%	1,790	6.2%	164,723
35-39	80,928	7.1%	56,692	8.4%	6,987	7.7%	2,542	8.0%	6,555	10.9%	1,481	5.1%	155,185
40-44	82,098	7.2%	45,441	6.7%	6,258	6.9%	2,142	6.8%	5,176	8.6%	1,114	3.9%	142,229
45-49	90,420	7.9%	35,116	5.2%	6,398	7.0%	1,776	5.6%	4,309	7.2%	1,123	3.9%	139,142
50-54	85,226	7.5%	24,699	3.6%	5,141	5.6%	1,373	4.3%	3,375	5.6%	897	3.1%	120,711
55-59	74,721	6.6%	17,076	2.5%	3,749	4.1%	956	3.0%	2,622	4.4%	680	2.4%	99,804
60-64	67,406	5.9%	11,725	1.7%	2,713	3.0%	710	2.2%	1,970	3.3%	487	1.7%	85,011
65-69	50,709	4.4%	7,438	1.1%	1,750	1.9%	440	1.4%	1,435	2.4%	354	1.2%	62,126
70-74	38,274	3.4%	4,805	0.7%	1,306	1.4%	310	1.0%	1,041	1.7%	269	0.9%	46,005
75+	79,980	7.0%	6,568	1.0%	1,724	1.9%	411	1.3%	1,511	2.5%	380	1.3%	90,574
Total	1,140,454		678,597		91,091		31,615		59,992		28,801		2,030,550

Appendix B

2009 BRFSS

Table 27.1 Total Maricopa County Residents by Reported Question-2009 BRFSS

People Fitting Criteria	Table	Male	Female	18-34	35-44	45-54	55-64	65+	White Non-Hispanic	Hispanic	Total
Total Observations		459	747	143	192	217	263	391	967	145	1,206
HIV Test	1-1	109	190	73	100	100	68	0	209	54	299
Flu Shot	6-1	204	357	35	55	75	112	275	491	36	561
History of Cancer	8-2	76	111	1	7	25	47	106	172	5	187
Coronary Heart Disease	9-1	36	27	0	1	6	10	45	55	4	64
Heart Attack	9-2	40	38	0	6	10	10	52	64	4	78
Blood Pressure	9-3	170	234	12	29	56	96	205	339	31	404
Cholesterol	9-4	181	281	19	44	79	124	192	396	36	462
Asthma	12-1	59	118	27	33	39	37	39	149	15	177
Former Smoker	12-2	168	194	25	33	46	80	175	322	23	362
Current Smoker	12-3	60	84	17	19	46	33	29	111	15	144
Cerebrovascular Disease	13-1	20	29	0	1	4	10	34	40	4	49
Diabetes	14-1	55	74	2	6	21	37	62	98	18	129
Obesity	14-2	106	166	27	50	54	68	71	203	37	272
Binge Drinking	16-1	68	49	34	28	26	19	9	90	18	117
Life Satisfaction	23-1	406	664	124	166	193	216	358	873	120	1,070
General Health	23-2	381	601	132	161	175	201	298	804	107	982
Uninsured	24-1	42	71	32	30	25	20	6	59	47	113
Affordability of Medical Care	24-2	44	94	27	32	39	28	11	88	40	138
Primary Care Physician	24-3	85	96	44	51	37	19	28	101	61	181
Physical Activity	Not Shown	Not Shown	Not Shown	Not Shown	Not Shown	Not Shown	Not Shown	Not Shown	Not Shown	Not Shown	537
Fruits and Vegetables	Not Shown	Not Shown	Not Shown	Not Shown	Not Shown	Not Shown	Not Shown	Not Shown	Not Shown	Not Shown	315

The number of individuals in each demographic group that responded in the affirmative for each question is shown in Table 27.1. The table that each question relates to is also shown. Physical Activity and Fruits and Vegetables do not have corresponding tables. Only the overall percentage was shown in graphical form.

Tables reporting BRFSS data show the estimated percent of Maricopa County residents that met the condition, by sex, selected age groups, and selected races. Due to a small sample size for some demographic groups, they are not shown in the tables (i.e., Black, American Indian, and Asian residents are not shown) or are combined into a larger group (i.e., 18-24 and 25-34 year olds are combined into one age group).

Unless otherwise stated below, respondents may respond with either "Yes" or "No" to each question. Respondents can also respond to all questions with "Don't know/not sure" or they can refuse to answer. Each question reported follows.

Table 1-1 shows respondents that answered "Yes" to the question "Have you ever been tested for HIV?" Respondents are told not to include any tests that were part of a blood donation.

Table 6-1shows respondents that answered "Yes" to the question "During the past 12 months, have you had a flu shot?"

Table 8-2 shows respondents that answered "Yes" to the question "Have you ever been told by a doctor, nurse, or other health professional that you had cancer?"

Table 9-1shows respondents that answered "Yes" to the question "Has a doctor, nurse, or other health professional ever told you that you have angina or coronary heart disease?"

Table 9-2 shows respondents that answered "Yes" to the question "Has a doctor, nurse, or other health professional ever told you that you had a heart attack, also called a myocardial infarction?"

Table 9-3 shows respondents that answered "Yes" to the question "Has a doctor, nurse, or other health professional ever told you that you have high blood pressure?"

Table 9-4 shows respondents that answered "Yes" to the question "Has a doctor, nurse, or other health professional ever told you that your blood cholesterol is high?"

Table 12-1 shows respondents that answered "Yes" to the question Has a doctor, nurse, or other health professional ever told you that you had asthma?"

Table 12-2 is based on two questions. The first question asks "Have you smoked at least 100 cigarettes in your life?" One hundred cigarettes is equivalent to five packs. The second question is "Do you now smoke cigarettes every day, some days, or not all?" If the respondents answered "Yes" to the first question and "Not at all" to the second questions, they were considered a Former Smoker.

Table 12-3 is based on the same two questions as 12-2. However, they are considered a Current Smoker if they answered "Every day" or "Some days" to the second question.

Table 13-1 shows respondents who answered "Yes" to the question "Has a doctor, nurse, or other health professional ever told you that you had a stroke?"

Table 14-1 shows respondents who answered "Yes" to the question "Has a doctor, nurse, or other health professional ever told you that you have diabetes?" The respondents do not include females who only had diabetes during pregnancy and did not include respondents who stated they have been told they have pre-diabetes or borderline diabetes.

Figure 14-4 shows the percent of Maricopa County residents who met the CDC recommendation for sufficient physical exercise, had 5 or more servings of fruits and vegetables, and who are considered obese. The percent of resident receiving sufficient physical activity is based on several questions. The first question asks "In a usual week, do you do moderate activities for at least 10 minutes at a time, such as brisk walking, bicycling, vacuuming, gardening, or anything else that causes some increase in breathing or heart rate?" The second questions asks "Do you do vigorous activities for at least 10 minutes at a time, such as running, aerobics, heavy yard work, or anything else that causes large increases in breathing or heart rate?" The third question asks "How many days per week do you do these activities for at least 10 minutes at a time?" The final question asks "On days when you do these activities for at least 10 minutes at a time, how much total time per day do you spend doing these activities?" The last two questions are open ended questions. Based on these four questions, the amount and type of activity the respondent engages in weekly are calculated. It is recommended that an individual have 150 minutes of moderate intensity aerobic activity or 75 minutes of vigorous aerobic activity each week. Each individual is also recommended to have 2 days of muscle strengthening activity each week. The percent of residents eating 5 or more servings each day of fruits and vegetables is based off of several questions "How often do you drink fruit juices such as orange, grapefruit, or tomato?" "How often do you eat fruit, green salad, potatoes, and carrots?" and "Not counting carrots, potatoes or salad, how many servings of vegetables do you usually eat?"

Table 14-2 and Figure 14-4 shows respondents that are considered obese based on their self-reported height and weight.

Table 16-1 shows respondents that are calculated to binge drink based on several questions. The first question asked "During the past 30 days, have you had at least one drink of any alcoholic beverage such as beer, wine, a malt beverage, or liquor?" If the respondent answered "Yes" they are then asked "Considering all types of alcoholic beverages, how many times during the past 30 days did you have X or more drinks on an occasion?" The value of X was 5 if the respondent was male and 4 if the respondent was female. The table shows respondents that had five or more drinks on one occasion for males, or four or more drinks on one occasion for females.

Table 23-1 shows respondents that reported life satisfaction as "Very Satisfied" or "Satisfied" based off the question "In general, how satisfied are you with life; Very Satisfied, Satisfied, Dissatisfied, or Very Dissatisfied?"

Table 23-2 shows respondents that reported their health as "Good," "Very Good," or "Excellent" from the question "Would you say that in general your health is: Excellent, Very Good, Good, Fair, or Poor?"

Table 24-1 shows respondents that reported they do not have any type of medical care coverage based off the question "Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?"

Table 24-2 shows respondents that reported "Yes" to the question "Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?"

Table 24-3 shows respondents that reported "No" to the question "Do you have one person you think of as your personal doctor or health care provider?"

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